NATIONAL PETROLEUM NEWS

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Tank Farm Fires Lick Up Half Month's Production In California

THE week past was one of the most disastrous ever experienced by the oil industry. Large loss of life, and huge loss of property, the greater extent of which was sustained by the Union Oil Co. of California, came through a series of tank farm fires and explosions and fires on tank ships following one another in unprecedented close sequence.

Two tank ship disasters in and near New Orleans were attended by large loss of life—latest reports gave 28 as the number believed to have been burned or drowned in both—and another tank ship fire burned to death 25 men at Port Arthur. Two men were burned to death in the fires in California.

LOS ANGELES, April 12

THE biggest oil field disaster in the history of the California petroleum industry and perhaps the largest that the world ever knew, burned itself to a cinder today, involving an economic loss which has been roughly estimated at $17,400,000.

This disaster overtook the Union Oil Co. of California on April 7 and 8 in the form of two tank farm fires, the first near San Luis Obispo and the second near Brea. Both conflagrations were started by bolts of lightning from electrical storms in a downpour which lasted for five days and drenched the state from end to end with an average of nearly seven inches of rain.

Started by Lightning

At about 7.30 in the morning of April 7, a bolt of lightning set fire to three wooden-roofed concrete lined earthen reservoirs, each containing 750,000 barrels of 24 gravity refinable crude. A few minutes later the fire spread to an adjacent reservoir containing 1,000,000 barrels of the same grade of crude and during the day reached out to lick up 14 wooden-roofed 55,000-barrel steel tanks and two more million-barrel storage reservoirs filled with heavy crude.

Boilovers from the first three reservoirs destroyed the pump house, boiler house, small warehouses and foamite plant connected with the steel storage. The losses at this fire include this equipment, the six reservoirs, 14—55,000 barrel tanks and 6,395,000 barrels of oil. Two men living near the tank farm were killed probably by a sort of whirlwind perhaps induced by the fire.

At about 9:20 the morning following the flash of lightning which enveloped the San Luis Obispo tank farm in flames, another flash struck the ground between two immense cement lined underground reservoirs at the Union's tank farm at Stewart, 30 miles from Los Angeles near Brea, and set fire to the two reservoirs simultaneously.

In this fire the company was more fortunate than in the first, because the prevailing wind was blowing the flames away from the area in which stood 16 steel tanks containing nearly 2,875,000 barrels of fuel oil and light refinable crude, but the flames licked up three underground reservoirs full of oil, a 3000 barrel refinery, 20 dwellings which had been occupied by employees, 70 acres of walnut trees, 20 acres of orange trees, three beautiful ranch homes, and considerable other property.

At Brea the oil loss amounted to 2,191-000 barrels. While company officials gave out no information concerning the loss, it is reported that insurance on the oil probably amounted to 85 cents per barrel. The oil might be lumped roughly at a market value of $1.40 per barrel. The earthen storage as well as the steel tanks take a construction value of approximately 50 cents per barrel.

Value of the oil lost in the two fires is placed at $12,879,000. Reservoirs and tanks are rated at $4,293,000. The refinery is understood to have been worth $250,000. It will not be rebuilt.

No estimate is made of the probable value of personal property destroyed by the two conflagrations. But it might run well over $250,000.

Half State's February Production

The quantity of petroleum lost by the Union in the two fires practically amounts to one-half the total crude oil output of California during February, the production during that month having been 17,163,963 barrels.

The oil loss was greater than the total bulk petroleum exports from Los Angeles harbor during the entire month of March, that figure being 8,525,277 barrels. The amount of oil destroyed was practically the equivalent of all the petroleum produced in the Rosecranz field during 1925, and it would have taken 114 average sized tank steamers to have hauled it out of the harbor.

At both tank farms the fire fighters endeavored to pump the water out of the bottom of the reservoirs and tanks, but met with little success, because of the early destruction of pumping equipment. Within an hour after each fire started the firemen could not get close enough to operate the fire fighting equipment for long, when the reservoirs boiled over.

The blazing oil ran like liquid fire down through the adjoining ranches, as well at between the tanks, and developed a fire zone of such proportions that the intensity of the heat quickly destroyed anything which was applied in an effort to check the blaze.

Each fire burned for three days. There were nearly 500 men at work on the San Luis Obispo fire. At Brea, because of its close proximity to Los Angeles, workmen were more easily obtained and 3000 were at the scene, almost from the beginning. It was decided, during the first day of each fire, that the flames could not be smothered, and that the fire fighters could not do more than protect as

much adjoining property as possible and let that which was afire burn itself out.

A Score Injured

Perhaps as many as 20 persons, including workmen and people residing in the vicinity of the fire, were injured by flying debris or by burning oil when tanks let go at the two fires. Transportation was temporarily suspended owing to the warping of railroad rails by the heat, at points near the two blazes. Many automobiles belonging to employees and several owned by curiosity seekers who were looking on, were licked up when the boiling over of reservoirs or the explosion of tanks spread the fire to a point so close to the machines that they could not be removed from the danger zone.

The beautiful country home of J. S. Seivers, at Brea, less than 300 feet from the fire zone, was saved from destruction while the magnificent home of his son William Seivers, which he had provided for his bride of three days, was totally destroyed, the newlyweds were in San Francisco on their honeymoon while the fire was raging.

The detail list of destruction is as follows:

At San Luis Obispo—Reservoir No. 2, containing 1,185,000 barrels of asphalt crude; reservoir No. 3, containing 1,010,000 barrels of refining crude; reservoir No. 4, containing 1,075,000 barrels of fuel oil; reservoir No. 5, containing 712,000 barrels of refining crude; reservoir No. 6 containing 743,000 barrels of refining crude; reservoir No. 7, containing 745,000 barrels of refining crude. Fourteen steel tanks, each of 55,000 barrels capacity, containing 200,000 barrels of fuel oil, 100,000 barrels of refining crude and 625,000 barrels of tops.

At Brea reservoir No. 8, containing 675,000 barrels of fuel oil; reservoir No. 10, containing 756,000 barrels of refining oil; reservoir No. 12, containing 760,000 barrels of refining oil; 20 houses of employees; one 3000 barrel refinery, this layout is known by the company as Stewart tank farm, named for the late Lyman Stewart, for a quarter of a century the leading spirit of the Union Oil Co. of California. Stewart tank farm collected oil from the Sante Fe Springs, Whittier, Brea Canyon, Richfield, Fullerton, and Huntington Beach fields.

It is believed that 27 degrees is a fair figure for the average gravity of the oil which was in storage there.

The San Luis Obispo tank farm, located two miles southwest of San Luis Obispo, is the terminus of the Producers pipe line system, which drains the Midway Sunset, Kern River, Coalinga, Elkhills and Belridge oil fields in the San Joaquin Valley, and takes the oil from the Stanta Maria and Lompoc fields in what is known as the coast district. Oil stored at the San Luis Obispo farm was held for shipment to the Avila refinery at Port San Luis, which is on the Pacific coast, 12 miles west of the tank farm, or was for shipment from Port San Luis to the Union's refinery at Oleum, unless loaded out of the port for direct shipment to the trade.

Explosions on Three Tankers Result In Heavy Loss of Life

NEW ORLEANS, April 10

TWO sensational ship disasters, coming within a few hours of each other on Thursday, resulted in loss of life believed to number 28, most of whom were seamen.

The first of the accidents occurred on the Standard Oil Co. tanker O. T. Waring as she was lying in dry dock of the Jahncke Dry Dock and Ship Repair Co., at the head of St. Maurice avenue. Twenty-three men were taken from the river and rushed to hospitals. Five were missing and there was little hope they would be found alive. One of the injured men died in the hospital. There were 35 men and officers of the Waring and an equal number of employes of the dry dock company on board at the time of the explosion. A large number were treated for minor burns and other injuries.

The Waring had been in dry dock only about three hours when the explosion came. No cause has been found for the accident. It was said by the manager of the dry dock company that so far as was known there was no fire on board ship. Seven of the nine tanks exploded in five blasts.

The ship had left Tampa and was proceeding to Baton Rouge, empty, halting at New Orleans for repairs. The Waring once before figured in an accident, one of similar nature. This was in Newport News six years ago. One man was killed.

Less than seven hours after the accident to the Waring, came the report of a collision between the Standard Oil tanker Thomas H. Wheeler and the Dutch tanker Silvanus some 40 miles below New Orleans in the Mississippi river.

The Dutch tanker was carrying 8200 tons of gasoline, bound for the United Kingdom. The Wheeler was bound for Baton Rouge, carrying crude oil. Fire broke out in the latter ship but was extinguished. There was no loss of life on the Standard boat.

On Saturday night there still remained unaccounted for, 23 of the crew of 45 of the Silvanus, and these were believed to be lost. Thirteen men were being treated at New Orleans hospitals and nine Chinese were held at immigration station. A large number of the Silvanus' crew were Chinese.

* * *

PORT ARTHUR, TEX., April 12.—Twenty-five men were burned to death when an explosion set fire to a cargo of gasoline on the Gulf of Venezuela, tank ship of the Gulf Refining Co., as she lay at dock early Sunday morning. The men were in their berths when the explosion occurred.

The explosion came in the men's quarters and the cause is yet unexplained. Company officials said it was believed that gas had accumulated through a leak, but that they were in doubt as to the manner of the leak and of how it became ignited.

The vessel had a crew of 39 men. It had capacity of 90,000 barrels and had, at the time of the accident, about 50,000 barrels of gasoline.

Coming Meetings

National Petroleum Association, Riverside Hotel, Cambridge Springs, Pa., April 15, 16.

American Society of Mechanical Engineers, Oil and Gas Power Conference, Mayo Hotel, Tulsa, April 23, 24.

Association of Natural Gasoline Manufacturers, Mayo Hotel, Tulsa, May 5, 6.

Wisconsin Independent Oil Jobbers, Association Hotel Conway, Appleton, Wis., May 12.

National Oil Scouts Association of America, Gunter Hotel, San Antonia, Tex., May 17, 18.

Natural Gas Supply Men, Inc., at International Exposition Grunds, Tulsa, May 17, 18, 19, 20.

Minnesota Petroleum Association and Wisconsin Independent Oil Jobbers Association, joint meeting, Hotel Stoddard, La Crosse, Wis., June 16.

American Petroleum Institute, Standardization Conference, Hotel Broadmoor, Colorado Springs, Colo., June 15, 16, 17.

Ohio Tests Far Below Oldest Oil Horizon

CLEVELAND, O., April 12.—The deepest well, geologically, ever put down in Ohio, is being drilled about three miles northeast of South Charleston, Clark county. It is the test of T. D. Friend, of Columbus, and associates and is being drilled by contractors, Klise, Eckstein McCann of Wooster, O.

Top of the Trenton limestone, oil bearing formation of the Lima district to the north and oldest oil-bearing formation exploited commercially anywhere in the world, was found at about 1350 feet and had a thickness of about 800 feet. No oil, gas or water were found in the Trenton but the underlying St. Peter's formation yielded a heavy flow of water. Well is now drilling at 4170 feet, or more than 2000 feet below the Trenton. It is in 5-inch hole.

The well was located on showing of some form "oil-finding" device.

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Burner Men Confident of Oil Supply, Project Big Advertising Plan

By Roger B. Stafford
N. P. N. Staff Writer

DETROIT, April 10

BUGABOOS that domestic oil heating is impractical because of limitations in the supply of suitable burning oil, were ignored at the third annual convention of the American Oil Burner Association here this week. No straw men were set up for jousting lancers in the guise of burner manufacturers and dealers to charge at. Neither were burner manufacturers and dealers cocksure that they were going to supplant all present methods of heating and present fuels in the next few years.

But confidence was expressed on all sides, by speakers inside and outside the burner industry, that oil burning in the home has a definite place in the future of western civilization where convenience and cleanliness are concerned, just as much as the electric light or the porcelain bathtub.

Extensive Advertising Plan

Both manufacturers and dealers received at the convention an elaborate and comprehensive plan for co-operative publicity by which it is expected to reach more than 3,000,000 prospects for oil burning equipment in the first 12 months after the plan is set afoot. Officers of the association hope to have the campaign moving along by Sept. 1 but the scope of it may delay its getting under way.

Delegates expressed approval of the plan but as most were unauthorized to pledge financial support of their companies at once, no action such as a vote for adoption, was taken at the convention. Action akin to adoption will be taken by mail when the members of the association send their campaign subscriptions to the association.

The convention's program covered many phases of the manufacture and distribution of oil burning equipment for both industrial and domestic plants. The fuel phase was covered by R. L. Welch, secretary and general counsel of the American Petroleum Institute, who said the supply of domestic furnace oil would depend upon economic laws, meaning the price of furnace oil and gasoline; W. H. Camp, Tulsa, general superintendent of Empire Refineries, Inc., who outlined the significance of specifications, and William A. Cahill, Cahill Oil Co., Cleveland, who told of furnace oil distributors' problems and made some recommendations where the burner people might help the oil men, particularly in the manner in which oil supply tanks were installed.

Mr. Cahill also suggested that a central service system for burners in places where no one company had a sufficient number of installations to warrant their employing their own service man or men.

The following officers were elected:

Lionel L. Jacobs, Fess Oil Burners of Canada, Ltd., Toronto, president.

John P. Leask, Peabody Engineering Corp., New York, vice-president for the Atlantic region; J. C. Johnston, S. T. Johnston Co., Oakland, Calif., vice-president for the western region; J. L. L. McCormack, Hardinge Bros., Inc., Chicago, vice-president for the Chicago region; Edwin M. Fleischmann, May Oil Burner Corp., Baltimore, vice-president for the southern region, and Leod D. Becker, New York, secretary and treasurer.

Directors, representing the manufacturers, newly elected are: C. H. Chalmers, Chalmers Oil Burner Co., Minneapolis; Edward P. Bailey, National Airoil Co., Philadelphia; George P. Kittel, Aeroil Burner Co., Union City, N. J.; J. E. Martin, W. B. Wilde Co., Peoria, Ill.; W. F. Tant, Silent Automatic Corp., Detroit, and C. A. Orr, Baker Steam Motor Co., Pueblo, Colo.

Dealers Organize Division

The dealers division of the association was organized and elected three directors to the main association. These three are: R. S. Bohn, Preferred Utilities Co., New York, who also is chairman of the dealers' division; W. Schwan, Gillespie, Schwan Co., Dallas, and Frank Staples, Johnston Oil Burner Co., Chicago. The dealers' division will have its own directors or governors, one for each of the 12 federal reserve bank districts and one for Canada. Part of these are to be chosen later.

The American Oil Burner Association held its first convention two years ago in St. Louis. It then had a mere handful of members and less than 30 manufacturers of burners or accessories then exhibited at the convention. This year the convention was attended by close to 500 men engaged in manufacturing burners or accessories or in distribution. Eighty exhibitors purchased 86 exhibit spaces.

Mr. Camp affirmed the assertion of Mr. Welch that price would be one of the chief determinants of the supply of furnace oil. He said refiners would supply any kind of oil required providing the price received was sufficient but that certain changes in oil supply may be expected in the future. The principal factor affecting the supply of gas oil for burning was the demand for gasoline, he said, but added that one of the products of cracking operations was a fuel oil well adapted to use in domestic burners because of its low viscosity and low pour test.

Always a Supply

Some cracking processes are to be developed, he said, that would have just three products—gasoline, a burning oil suitable for domestic burners, and coke. He said there always would be refiners that would be ready to cater to an oil burner trade, but that price would be influenced by the price of gasoline and demand for gas oil for cracking. The product of cracking which made an ideal furnace oil, he said, had a gravity of 36 to 39° A.P.I., 140-170° F. flash and zero pour test. The only objection to this oil, he added, was the odor which could be improved by treating.

The burner user should not be greatly concerned in burning oil specifications, Mr. Camp said, but only in whether results are satisfactory. He emphasized the fact that gravity of oil is not essential but that the viscosity should be low and the open cup flash test not more than 160-170° F. to insure ignition in intermittent firing machines.

He recommended standardization of oil burners within a reasonable range so that the refiner may arrange his processes to get the most oil of the grade in the greatest demand.

Questionnaires to Refiners

In connection with the supply phase, Mr. Becker said he had persuaded the American Petroleum Institute, Western Petroleum Refiners Association and National Petroleum Association to send to their members questionnaires asking the exact specifications of all grades of burning oils down to the heavy fuel oils those refiners were making and marketing and the territories in which the oils were being marketed. In this way it is hoped to have burners adapted to the oils available in different regions of the United States and Canada. Some indifference was encountered among part of the refiners, Mr. Becker said, and a few were antagonistic but he quoted Dr. Joseph L. Pogue as saying furnace oil demand of the last winter had been instrumental in helping to maintain the price of oils suitable for domestic heating plants. Mr. Camp also said demand for domestic fuel oils was something to be reckoned with by the oil industry.

According to Mr. Becker there are about 220,000 oil burner installations in this country, including those in stoves. Burner manufacturers of all types of domestic equipment are planning to put

out 246,000 machines in 1926, Mr. Camp said.

After telling of how he handled his domestic burning oil customers Mr. Cahill said he had suggested that he undertake the servicing of several makers of burners because the owners were having trouble and the manufacturers or dealers were not fully prepared to do the servicing. He had encountered opposition, he said, the chief objection being that dealers insisted that specially trained men were necessary for each make of burner. He said his experience in the air service during the war made him believe there were plenty of mechanics who with a little training could properly service any number of makes of burners to the satisfaction of dealers and their customers. He suggested that dealers set aside about $25 of the sale price of each burner to pay for the servicing by some organization which could handle the work adequately.

On oil deliveries he said his company had a base price, charged ½ cent more a gallon on deliveries of less than 300 gallons and granted a discount of ¼ cent a gallon on deliveries of more than 1300 gallons. He said the premium and discount was determined by the company's truck equipment. Full truckload deliveries enabled a truck to make seven trips a day on the average, he said, but that only five loads would be delivered in a day when they consisted of part load deliveries.

Fight Unfair Publicity

Part of the publicity of association members is expected to overcome prejudice against oil built up by the distributors of other fuels. The coal industry has been particularly offensive, it was said, advertising that burning of oil is a grave hazard. The association, Mr. Becker said, had been able to offset some of the unfair publicity in the last year, and had witnessed an increase of 200 per cent in oil burner installations in the north Atlantic territory which in years past has been a large consumer of anthracite coal.

The advertising campaign planned to broaden the market for oil burners covers a wide range. In the domestic burner field it consists of advertising in general and class magazines and follow-up literature as follows:

From association headquarters to home owners, architects, building contrastors, heating contractors, hotels hospitals, established dealers of member companies, and member manufacturers.

From member manufacturers to prospective dealers, newly established dealers and all groups influencing prospects.

From dealers of member companies to home owners, churches, schools, theaters, apartment houses and stores.

Industrial Publicity

In the industrial field the campaign will consist of advertising in business papers, direct mail and follow-up literature as follows:

From association headquarters to the industrial field as a whole, industrial plants, consulting engineers and member manufacturers.

From member manufacturers to all prospects and groups influencing industrial prospects.

The cost is comparatively low; the entire campaign designed to reach more than 3,000,000 prospects is to require only $69,500. The manufacturers are to pay on a percentage basis, the amount being governed by their gross sales for a year. Dealers are to pay only 50 cents a week and burner salesmen may get a sales stimulating plan for $2 a year. Because forced draft burners offer a market for central station current, the electrical industry may be expected to assist, said representatives of the Society for Electrical Development who were present. Several oil companies also expressed interest in the plan.

The campaign was drawn by J. J. O'Donnell, sales manager of the William Greene Corp., a New York printing house, with the assistance of Mr. Becker. Every co-operative advertising campaign of prominence was investigated before the burner scheme was drafted.

Market Yet Limited

Most burner men recognize that their market for the immediate future is largely in the homes of the well-to-do. Such homes contain 77 per cent of present domestic installations, A. H. Melville, director of research of the Conde Nast publications, said. An opposing view was taken by M. E. Simpson, Northern Machinery Co., Minneapolis, a manufacturer of a natural draft burner, who said millions of home owners were desiring automatic oil heat but were unable to buy the more expensive forced draft machines. He said thousands of natural draft burners have replaced coal burners to the satisfaction of the buyers.

James L. Breese, Jr., Breese Engineering Corp., Chicago, said the natural draft burner never would be a complete success until the oil feed should be regulated in relation to the change in draft. Mr. Breese also read a paper on "The Influence of Intermittent Firing on Efficiency."

Dr. H. C. Parmelee, editor of Chemical & Metallurgical Engineering, read a paper on uses of oil fuel in the industries. This paper was published on page 79 of the April 7 National Petroleum News.

C. F. Olmstead, who made many experiments in oil burning and tested oil burning equipment when he was a student in the engineering school of the University of Minnesota, is now the association's technologist. He has prepared one technical bulletin and is preparing others. A "Handbook of Domestic Oil Burning" also is being prepared.

Elmer E. Harris, Buffalo Marketer, Dies

BUFFALO, April 12.—Elmer E. Harris, 64 years old, one of the most widely known Independent oil distributors in New York state, died of pneumonia April 11 at his home here. His health had been poor since 1921. He was secretary, treasurer and general manager of Elmer E. Harris & Co., Buffalo, and president of the Oil Jobbers' Corp., Buffalo, and Monroe County Oil Co., Rochester. He also was interested in Frank J. Rohr & Co., producers of Pennsylvania crude with headquarters at Titusville, Pa.

Mr. Harris started working for the Genesee Oil Works of Buffalo 40 years ago doing all sorts of work. In less than 10 years he was superintendent of the plant. In 1896 he entered the oil business for himself under the name N. H. Foote & Co. The name of the enterprise was later changed to Elmer E. Harris & Co.

Mr. Harris was also interested in politics and served from 1907 to 1913 as a member of the Buffalo board of aldermen, and was chairman of the board in 1911. He also represented the fourth New York assembly district on the Republican state comittee. He also was a member of the Buffalo Chamber of Commerce committee of rivers and harbors and chairman of a special committee which sought to obtain a wider harbor for Buffalo.

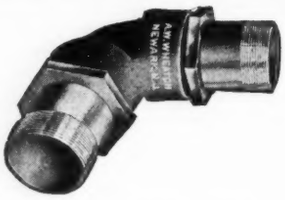
Mr. Harris was a 32nd degree Mason and a Shriner, an Elk and Odd Fellow. He also was a member of the Y. M. C. A., Central Railway club, Automobile Club of Buffalo, Motor Boat club and Buffalo Launch club. At one time he was a director of the National Petroleum Marketers' Association.

In 1884 Mr. Harris married Emma C. Weimert, who with two children Chester L. Harris and Mrs. George H. Bangert, survive him. Funeral was to be held April 14 at the Central Presbyterian church, Buffalo.

Buy Acreage and Wells

SISTERSVILLE, W. VA., April 12.—Henaghan & Hanlon, large producers of natural gasoline, have purchased the holdings of the Associated Producers Co. in Ritchie county, W. Va. The properties consist of 1000 acres of leases and 37 producing oil wells. They fit admirably into the properties already held by Henaghan & Hanlon.

LINCOLN, NEB.—Cornhusker Filling Station has just added a new truck, equipped with 660 gallon tank for gasoline, according to Clarence C. Garrison, secretary.



Double Swing Joint

Type 30
Tank Truck Faucet

Single Swing Joint

Type A
Tank Truck Faucet

Type 26
Loading Valve

Type 24
Tank Truck Faucet

They're Money-Savers —*every one*

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Type 35 Non-Drip
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Wheaton

Compilation Of Mid-Continent Refinery Operations

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National Petroleum News

Mid-Continent Refinery Operations Week Ended April 9 (By Telegraph)

	Kansas	%Change Previous Week	Oklahoma	%Change Previous Week	No. & Cent. Texas	%Change Previous Week	No. La.-Ark.	%Change Previous Week	Total	%Change Previous Week	Totals Week Ended Mar. 12
Plants Reporting...	23		46		41		14		124		124
Daily Cap. (Bbls.)..	98,200		165,900		144,300		51,700		460,100		460,100
Da. Av. Crude Runs.	46,453	+ 7.1	87,731	— 4.6	53,824	—14.1	44,914	+ 9.6	232,922	— 2.5	233,235
Da. Av. Other Oils..	4,750	+ 7.7	—107	.....	5,251	+161.0	—191	.....	9,703	+36.5	8,706
GASOLINE—Gallons											
Stocks April 2.....	14,294,461		51,611,092		18,766,878		6,794,076		91,466,507		96,300,080
Prod. 4-2 to 4-9....	7,641,702	+ 5.6	12,256,880	+ 0.5	5,933,783	—15.6	2,873,659	+ 4.8	28,706,024	— 1.7	29,414,742
Ship. 4-2 to 4-9.....	8,325,530	+ 9.7	11,937,416	—24.0	6,423,771	— 4.6	3,022,223	+10.6	29,708,940	— 9.3	31,355,207
Stocks April 9.....	13,610,633	— 4.8	51,930,556	+ 0.6	18,276,890	— 2.6	6,645,512	— 2.2	90,463,591	— 1.1	94,359,615
Ratio Sales to Prod.	108.9%		97.4%		108.3%		105.2%		103.5%		106.6%
KEROSENE—Gallons											
Stocks April 2.....	1,222,209		5,351,369		1,220,910		390,768		8,185,256		8,127,662
Prod. 4-2 to 4-9....	1,241,272	+27.2	1,937,143	—11.8	1,172,800	—14.5	452,387	— 2.7	4,803,602	— 4.1	5,040,343
Ship. 4-2 to 4-9.....	942,739	— 9.4	2,787,639	— 6.1	1,108,801	— 6.4	488,365	—14.6	5,327,544	— 7.6	5,018,278
Stocks April 9.....	1,520,742	+24.4	4,500,873	—15.9	1,284,909	+ 5.2	354,790	— 9.2	7,661,314	— 6.4	8,149,727
Ratio Sales to Prod.	75.9%		143.9%		94.5%		108.0%		110.9%		99.6%
STOVE DISTILLATE—Gallons											
Stocks April 2.....	386,958		2,040,260		198,784		6,972		2,632,974		3,111,112
Prod. 4-2 to 4-9....	467,228	+11.7	559,207	—21.4	1,090,438	+184.4	28,644	+25.6	2,145,517	+39.7	1,879,516
Ship. 4-2 to 4-9.....	591,127	+20.7	803,327	— 2.1	1,128,209	+178.8	20,034	—25.4	2,542,697	+46.0	2,302,336
Stocks April 9.....	263,059	—32.0	1,796,140	—12.0	161,013	—19.0	15,582	+123.5	2,235,794	—15.1	2,688,292
Ratio Sales to Prod.	126.5%		143.7%		103.5%		69.9%		118.5%		122.5%
GAS OIL—Gallons											
Stocks April 2.....	5,991,109		34,675,684		6,247,247		5,807,090		52,721,130		50,750,452
Prod. 4-2 to 4-9....	1,203,723	— 8.4	887,717	—45.8	381,354	+148.3	2,213,579	+22.9	4,686,373	— 4.4	5,102,764
Ship. 4-2 to 4-9.....	757,254	+50.2	1,374,254	+18.4	371,835	+1048.4	2,051,565	+18.3	4,554,908	+32.7	3,874,005
Stocks April 9.....	6,437,578	+ 7.5	34,189,147	— 1.4	6,256,766	+ 0.2	5,969,104	+ 2.8	52,852,595	+ 0.2	51,979,211
Ratio Sales to Prod.	62.9%		154.8%		97.5%		92.7%		97.1%		75.9%
FUEL OIL—Gallons											
Stocks April 2.....	6,134,273		36,934,670		18,388,372		3,975,588		65,432,903		78,166,217
Prod. 4-2 to 4-9....	4,097,370	+17.9	7,537,437	— 4.8	6,801,434	—14.8	6,941,246	— 5.5	25,337,487	— 5.0	25,003,404
Ship. 4-2 to 4-9.....	4,843,601	+16.2	8,500,196	— 5.3	7,418,063	— 9.8	6,632,032	— 4.8	27,393,892	— 3.3	28,800,50
Stocks April 9.....	5,388,042	—12.2	35,971,911	— 2.6	17,771,743	— 3.4	4,284,802	+ 7.8	63,416,498	— 3.1	74,369,041
Ratio Sales to Prod.	118.2%		112.8%		109.1%		95.5%		107.9%		110.8%

Motor Fuel Stocks Again Decline at 124 Refineries

By Telegraph

TULSA, April 13

GASOLINE stocks at 124 refineries in the Mid-Continent were reduced 1,000,000 gallons during the week ended April 9, according to reports to National Petroleum News. The week was the third consecutive one in which motor fuel stocks had been reduced. During the four weeks ended April 9 stocks were reduced 3,896,024 gallons. Stocks April 9 represented 21 days' supply at the current rate of shipments.

Kerosene stocks were reduced 500,000 gallons to7,661,314 gallons at all reporting plants. Heaviest shipments were reported by Oklahoma and Louisiana-Arkansas plants while Kansas and Texas plants increased stocks slightly.

Stove distillate stocks were reduced 400,000 gallons at all plants to 2,235,794 gallons, representing less than one week's supply at the current rate of shipments.

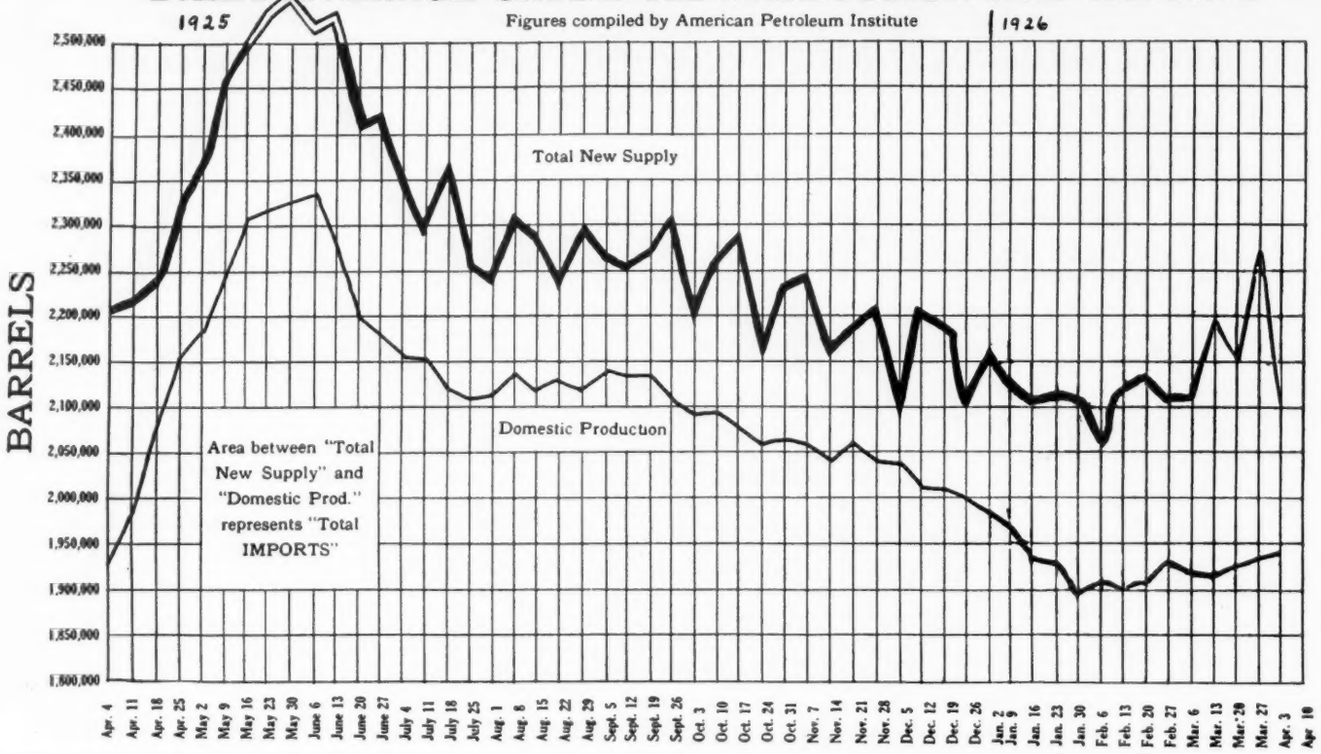
Refiners continued to accumulate gas oil for the summer cracking season. Stocks increased 130,000 gallons during the week to 52,852,595 gallons at all plants. Gas oil stocks were the only stocks to be increased. Fuel oil shipments were 2,000,000 gallons above production with the result that stocks were cut to 63,416,496 gallons, only a little over half as much as was held in storage Jan. 1.

Summary for the Month

Production and shipments, all reporting refineries, for four weeks ended Apr. 9. Change in stocks figured from Mar. 12.

	Gallons
Gasoline	
Production	118,991,678
Shipments	122,887,702
Net change in stocks	—3,896,024
Ratio sales to production	103.3%
Kerosene	
Production	20,793,853
Shipments	21,282,266
Net change in stocks	—488,413
Ratio sales to production	102.3%
Stove Distillate	
Production	7,978,313
Shipments	8,430,811
Net change in stocks	—452,498
Ratio sales to production	105.7%
Gas Oil	
Production	17,554,886
Shipments	16,681,502
Net change in stocks	+873,384
Ratio sales to production	95.0%
Fuel Oil	
Production	105,293,663
Shipments	116,246,206
Net change in stocks	—10,952,543
Ratio sales to production	110.4%

DAILY AVERAGE CRUDE OIL PRODUCTION AND IMPORTS



This chart is based on official complete figures of A. P. I and is a week older than the production estimates given in regular tabular form

Crude Production by Districts

Daily average gross crude output of United States, by fields, for week ending with dates given below, as compiled by American Petroleum Institute

National Petroleum News

OKLAHOMA

	April 10	Apr. 3
North Braman	2,650	2,800
South Braman	10,000	10,450
Blackwell	3,900	4,000
Hubbard	1,850	1,900
Thomas	5,950	6,450
Tonkawa	38,800	40,100
Garber	37,850	47,550
Burbank	41,650	42,250
Osage, outside Burbank	32,850	32,900
Watchorn	2,500	2,500
Cushing	21,950	22,100
Yale Jennings	16,100	16,000
Davenport	18,550	19,600
Bristow-Slick	30,100	30,450
North Okmulgee	17,900	17,900
Lyons-Deaner	4,250	4,250
Stroud	2,400	2,400
Cromwell	18,550	18,350
Papoose	12,500	12,800
Wewoka	32,800	30,000
Duncan district	7,350	7,350
Graham	9,500	9,450
Fox	4,100	4,100
Healdton	14,900	14,900
Hewitt	12,150	12,200
Others	68,100	66,100
Total Oklahoma	469,200	478,800
Decrease		9,600

* * *

KANSAS

	April 10	April 3
Florence-Covert	1,750	1,750
Peabody-Ebing	4,350	4,300
Eldorado-Towanda	13,900	13,750
Auguta-Fox-Bush	4,800	4,750
Rainbow Bend	4,750	4,750
Russell	5,500	5,650
Greenwood County	40,800	41,450
Others	25,450	24,650
Total Kansas	101,300	101,050
Increase		250

NORTH LOUISIANA

	April 10	Apr. 3
Homer	5,800	5,850
Haynesville	10,300	10,400
Caddo, light	8,500	8,750
Caddo, heavy	2,150	2,150
De Soto, Red River	3,950	3,900
Elm Grove	600	600
Bellevue	2,500	2,500
Cotton Valley	8,100	8,050
Urania	9,250	6,950
Total North Louisiana	51,150	49,150
Increase		2,000

ARKANSAS

El Dorado	7,450	7,650
Smackover, light	17,850	18,150
Smackover, heavy	133,750	134,350
Stephens	1,650	1,600
Nevada	3,000	2,100
Lisbon	5,750	3,950
Total Arkansas	169,450	167,800
Increase		1,650

* * *

NORTH TEXAS

Burkburnett	12,350	12,550
Electra	16,200	16,500
Iowa Park and K-M-A	4,400	4,450
Wilbarger	12,650	12,900
Panhandle	7,600	7,200
Petrolia	450	450
Archer County	31,250	31,300
Others	1,300	1,300
Total North Texas	86,200	86,650
Decrease		450

EAST CENTRAL TEXAS

Mexia	13,200	12,700
Currie	1,050	1,050
Richland	1,800	2,250
Corsicana-Powell	31,100	31,400
Wortham	9,600	10,200
Total East Central Texas	56,750	57,600
Decrease		850

WEST CENTRAL TEXAS

	April 10	Apr. 3
Stephens County	13,500	13,200
Eastland County	6,000	5,950
Desdemona	2,650	2,050
Young county	7,850	8,050
Palo Pinto County	550	400
Callahan County	3,450	3,550
Shackelford County	2,750	2,100
Reagan County	35,300	31,900
Others	10,100	9,350
Total West Central Texas	82,150	77,350
Increase		4,800

SOUTHWEST TEXAS

Somerset	2,250	2,250
Lytton Springs	7,330	7,700
Mirando	6,600	6,600
Luling	22,650	22,600
Piedras Pintas	200	200
Others	700	700
Total Southwest Texas	39,700	40,050
Decrease		350

GULF COAST

Goose Creek	8,900	8,850
Hull	18,250	18,400
Saratoga	1,300	1,300
Blue Ridge	600	650
Damon Mound	1,000	1,050
Batson	1,300	1,300
West Columbia	9,350	9,400
Humble	3,550	4,700
Pierce Junction	1,650	450
Sour Lake	3,850	4,000
Spindletop	2,100	2,200
Orange County	12,550	12,300
Edgerly	1,100	1,100
Evangeline	1,100	1,100
Vinton	6,300	6,250
Lockport	2,850	3,050
South Liberty	6,100	6,100
Big Creek	1,300	1,400
Boling	2,150	1,750
Others	1,250	1,350
Total Gulf Coast	86,550	86,700
Decrease		150

ROCKY MOUNTAIN

WYOMING

Salt Creek	52,950	52,450
Grass Creek	2,800	2,800
Elk Basin	600	600
Big Muddy	3,400	3,450
Lost Soldier	4,200	4,400
Rock River	2,950	3,050

(Continued on page 42)

"OILWELL"
ESTD 1862
TRADE MARK
(REGISTERED)

FOR OVER 50 YEARS "OILWELL" JARS HAVE BEEN THE MOST POPULAR IN EVERY FIELD

There must be a reason:

"OILWELL" originated and patented the Fuller Crotch—the greatest single improvement made in jars.

"OILWELL" also first conceived and employed the practice of heat-treating jars.

Per foot of well drilled, "OILWELL" Jars are the cheapest.

"OILWELL" renders a national service, through 100 Branches located throughout the oil fields.

AN "OILWELL" VETERAN

A Set of 5½-inch "OILWELL" Drilling Jars, with 2¾"x3¾" joints, in Poland. These jars were used from October 7, 1924 until April 15, 1925, in both drilling and underreaming, and after more than six months of continuous service were still in good condition.

OIL WELL SUPPLY CO.

NEW YORK—LOS ANGELES—PITTSBURGH, U.S.A.—SAN FRANCISCO—TAMPICO—LONDON

WORLD'S OLDEST AND LARGEST MANUFACTURERS OF OIL FIELD EQUIPMENT

(Continued from page 40)

Teapot Dome	1,350	1,400
Others	4,900	4,950
Total Wyoming	73,150	73,100
Increase		50
MONTANA		
Cat Creek	2,950	2,800
Sunburst	19,800	14,500
Total Montana	22,750	17,300
Increase		5,450
COLORADO		
Moffat (Craig)	2,850	3,100
Fort Collins	2,600	2,750
Florence	400	400
Others	500	450
Total Colorado	6,350	6,700
Decrease		350
NEW MEXICO		
Artesia	3,000	3,000
Hogback	450	500
Rattlesnake	550	200
Total New Mexico	4,000	3,700
Increase		300
Total Rocky Mountain	106,250	100,800
Increase		5,450

CALIFORNIA	**April 10**	**Apr. 3**
Santa Fe Springs	50,000	50,000
Long Beach	103,000	106,500
Huntington Beach	44,000	43,500
Torrance	29,000	30,000
Dominguez	21,000	20,500
Rosecrans	19,000	19,500
Inglewood	51,000	51,500
Midway-Sunset	93,000	93,000
Others	187,000	188,000
Total California	597,000	602,500
Total California	597,000	602,500
Decrease		5,500
EASTERN		
(Including Ill., Ind., Ky., Ohio, W. Va., Pa., and N. Y.)	100,500	99,000
Increase		1,500

PRODUCTION SUMMARY		
Production east of Rockies	1,349,200	1,344,950
Increase		4,250
Total Production in U. S.	1,946,200	1,947,450
Decrease		1,250

Tennessee Gasoline Cut

NEW ORLEANS, April 13.—On April 12 Standard Oil Co. of Louisiana reduced the tank wagon and service station prices of gasoline in Tennessee ½ cent. Last previous change in Tennessee was 1 to 2½ cents advance on Apr. 1. Advices on this cut came too late to correct prices in the tank wagon table at the back of this issue.

N. Y. Standard Directors O. K. General Deal

NEW YORK, April 12.—Directors of Standard Oil Co. of New York have approved plans for the purchase of the General Petroleum Corp. of California. The purchase will be accomplished by the exchange of two shares of Standard for each outstanding share of General. The deal now is subject only to a vote by the stockholders of each company at special meetings to be held May 17.

The purchase involves 2,354,404 shares of Standard of New York, H. L. Pratt, president of Standard, announced. After the sale of its assets, the General corporation will be dissolved. Standard stockholders at their special meeting must also vote on an increase in capital stock to care for the purchase.

Week's Shipments From Los Angeles Declines

LOS ANGELES, April 12.—Bulk shipments of oil from Los Angeles harbor during week ended April 10 touched high mark for this year, totaling 2,492,772 barrels, taken by 36 tankers.

Atlantic coast domestic trade took 812,672 barrels, including 74,636 barrels of Diesel oil; 95,957 barrels of gasoline, 80,601 barrels of gas oil, and 561,478 barrels of crude.

Atlantic foreign trade took 208,876 barrels of gasoline.

Pacific coast domestic trade took 946,456 barrels, including 507,412 barrels of crude, 324,697 barrels of fuel oil and 114,347 barrels of gas oil.

Pacific foreign trade took 524,769 barrels, including 216,600 barrels of kerosene, 42,000 barrels of crude and 266,169 barrels of fuel oil.

Shipments to the Atlantic coast and their carriers were as fo'lows: Str. W. E Hutton to Philadelphia, with 74,636 barrels of Diesel oil for the Pure Oil Co.; Str. Swiftlight to Fall River, Mass., with 79,176 barrels of crude for Swiftsure Oil & Transport Co.; Str. Standard Arrow to Baltimore with 95,957 barrels of gasoline for Standard Transportation Co.; Str. Derbyline to Bayonne, N. J., with 72,000 barrels of crude for Tide Water Oil Co.; Str. Cape Henlopen to Boston with 77,049 barrels of crude for Cape Oil Co.; Str. Hahira to Philadelphia with 80,601 barrels of gas oil for Atlantic Refining Co.; Str. Agwistone to Bayonne with 105,400 barrels of crude for Tide Water Oil Co.; Str. Agwimoon to Bayonne with 78,000 barrels of crude for Atlantic, Gulf & West Indies Steamship Co.; Str. Miller County to Philadelphia with 80,893 barrels of crude for Sun Oil Co.; Str. Dungannon to Baltimore with 68,960 barrels of crude for Tide Water Oil Co.

Petroleum exports from Los Angeles harbor for the first quarter this year totaled 24,922,694 barrels. During March exports from the harbor to Atlantic domestic trade totaled 2,688,073 barrels.

Shipments of Products in Detail

	Barrels					
	Crude	**Gasoline**	**Gas Oil**	**Fuel Oil**	**Tops**	**Kerosene**
Atlantic Domestic	561,478	95,957	155,237	.....	.....	.....
Atlantic Foreign	.....	208,876	.....	.....	.....	.....
Pacific Domestic	507,412	.....	114,347	324,697	.....	.....
Pacific Foreign	42,000	.....	.....	266,169	.....	216,600

	Barrels
Atlantic Domestic, all products	812,672
Atlantic Foreign, all products	208,876
Pacific Domestic, all products	946,456
Pacific Foreign, all products	524,769
Grand Total Shipments, all products, Week Ended April 10	2,492,772
Grand Total Shipments, all products, Week Ended April 3	1,791,271

Drill Alabama Test

CLEVELAND, O., April 12

Drilling is under way on an important test in northwest Alabama on a block of 73,000 acres held by the Pittsburgh Oil Development Co., newly formed Benedum-Trees and associates wildcatting company.

The Alabama test is one of seven wildcats now being drilled by this company, in New Mexico, Texas, Louisiana and Alabama. Doubtless one of the most widespread wildcatting campaigns ever conducted in the United States.

Location of the Alabama test is in 26-8-14, about one and one-half miles south of Atwood, Franklin county, on what is known as the Diamond Point structure. In turn, this is on a large structural feature known as the Jackson anticline.

Interesting in connection with this venture is the manner in which the structure was first tested. S. A. Hobson, geologist, was interested in a test in the same section prior to 1917 A test was put down to a point where it was in a small hole and could not be carried to the objective Trenton formation. It was decided to bring in a diamond drill, core the Trenton and if anything worth while were found, underream to the sand. The core, as has been published in a report of the Alabama state survey, showed heavy saturation of higher grade oil. Sand was cored for 21 feet. In trying to underream, several strings of tools were lost in the hole and the project was abandoned.

Nothing more came of this until Mr. Hobson, by the way, a brother of the celebrated Richard Pearson Hobson, interested the Benedum-Trees people in his story. Geologists for the company checked up structural evidence: land men gathered in the leases. The test is located only a few hundred feet from the unfortunate fishing job, which found top of Trenton at 2588 feet. Other companies have been active in leasing.

This test is far removed from the old Fayette gas field of Alabama and bears no relationship, either structurally or in point of pay sand sought.

The Pittsburgh Oil Development Co. is drilling other tests, as follows:

Union parish, La., in 14-20-le, midway between Homer field and Monroe gas field.

Bossier parish, La., in 14-23-14, some 10 miles northeast of the Caddo field.

San Juan Basin, New Mexico, on structure known as Cathedral Rock dome. Company controls structure in its entirety. This is in McKinley county.

Jim Hogg county, southern Texas, on Allen ranch.

Brooks county, southern Texas, on Wormser ranch.

Northeastern Jim Wells county and northwest Nueces county, Texas on Gallagher ranch.

Chemists Foresee Better Refining Methods And New Products from Petroleum

By J. C. Chatfield
N. P. N. Staff Writer

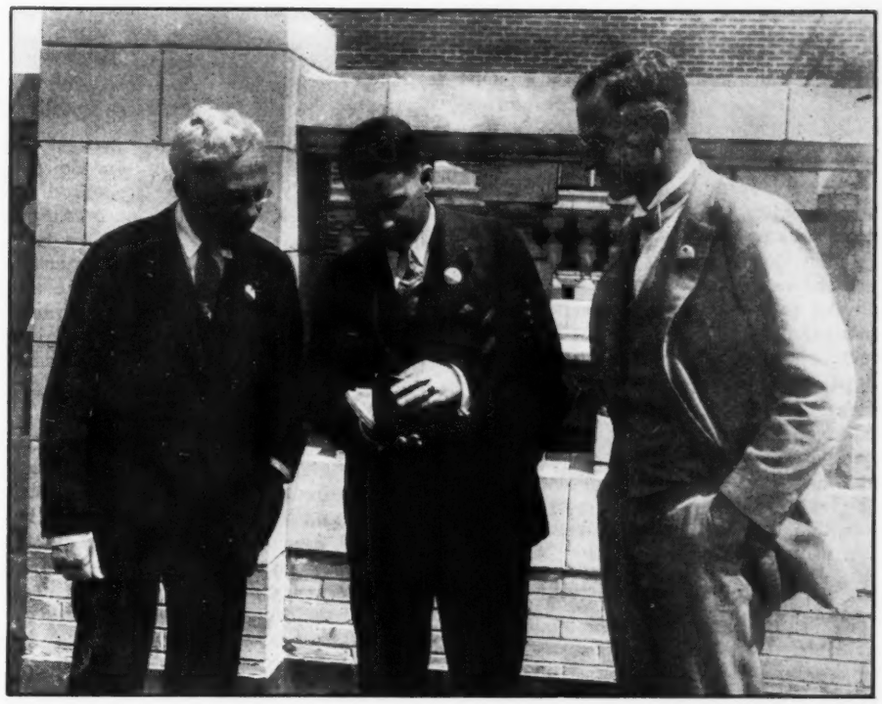
TULSA, April 8

GLIMPSES of a bigger future for the petroleum industry as well as problems of the present were vividly presented at the meeting of the Division of Petroleum Chemistry of the American Chemical Society held in Tulsa during the past four days.

Discovery of new products from petroleum presents a field for chemical genius which is now realized by leaders of the profession. Likewise improvement in manufacturing practise is extraordinary despite rapid advances of the past five years.

At the meeting which closed today new uses for petroleum were forecast. Results of research calculated to improve both methods of manufacture and quality of the products themselves were revealed. An entire day's program was devoted to lubrication resulting in a wide discussion of the still somewhat intangible quality of "Oiliness" of oils and a study of the action of oil in various types of bearings.

Production of alcohol from petroleum is an accomplished fact. Samples of the by-product were shown to the chemists at the meeting and industrial application discussed.



—N. P. N. Staff Photo

James F. Norris, president of the American Chemical Society; R. R. Matthews, chairman of the Division of Petroleum Chemistry; and A. P. Anderson, Technologist of the American Petroleum Institute

Rubber From Oil

It was announced that the production of synthetic rubber from petroleum is far from being an idle dream. A. D. Little of A. D. Little, Inc., Boston, said in a public address during the course of the convention, that experiments in his organization have resulted in the production of isoprenes from which the road to rubber is not far or obscure.

New methods of recovering solid elements of petroleum by the use of solvents resulting from experimental work of the U. S. Bureau of Mines was announced by Harold M. Smith. The use of solvents to separate liquid from solids in a continuous process opens up a big field for research since the process is much more simple than that involved in distillation.

Extreme importance is attached by chemists of the industry to the gifts for research totaling a half million dollars recently announced by John D. Rockefeller and the Universal Oil Products Co. Although large oil companies are now spending a great deal of time and money on research in well equipped laboratories it is the opinion of chemists that the gift will act as a spur to advancement of the industry as a whole and be of benefit to the consuming public.

In a discussion of this subject Benjamin T. Brooks, consulting chemist, reviewed the history of the other industries. He said that at the present time by-product ovens are producing 80 per cent of the coke of the nation. The manufacture of by-products of corn such as glucose, starch, butyl alcohol, corn oil and the like have reached such magnitude that it has become an important factor in determining the market value of the corn crop.

Dr. Brooks pointed out that at present the major consumption of oil is for fuel. The great bulk is marketed as a low priced product with the result that the "obvious formula for economic success is enormous refinery throughput. It becomes all the more necessary therefore for refineries to install processes and equipment which will widen their normally small margin of profit, even by the smallest fraction. Thus, the recovery of an additional four per cent (of the crude) of gasoline by improved fractionating equipment may double the annual profits of a refinery."

It was urged by the speaker that technical men be given greater voice in the conduct of individual corporations than in the past. He pointed out a number of instances in which companies have missed the opportunity to make better profits by failing to take technical advice.

Chemists of the industry are not pessimists about the supply of motor fuel. On the contrary they have faith that there will be plenty for a long time to come.

Gustav Egloff of the Universal Oil Products Co., reported results of cracking shale oils for the production of gasoline which were startling. He showed results of work which indicate that at least 50 per cent of shale oil can be converted into gasoline with high anti-knock qualities.

Possibilities of Shale

On the basis of present estimates of the supply of shale oil gotten from surveys Dr. Egloff estimated that the industry can produce 54 billion barrels of shale gasoline from U. S. reserves. That amount would give the United States approximately 16 billion gallons of gasoline per year for 150 years after the exhaustion of petroleum.

It was considered not improbable that shale may be produced and retorted at the mine and the oil transmitted by pipe lines to existing refineries in market centers for the production of finished commodities. Another paper by Dr. Egloff and Dr. Jacque Morrell is published elsewhere in this issue.

As far as the petroleum industry is concerned, the manufacturers of motor

cars can design and beg'n marketing high compression motors. This idea was reiterated at the meeting. It was shown that 29 per cent of the gasoline now being produced in the United States is cracked and possesses non-detonating qualities. Distribution facilities of the industry need not be changed radically to give this product to the motorist. As a matter of fact distribution of straight cracked gasoline is growing wider every day.

Testing of Anti-Knock Qualities

A STUDY of various phases of cracking occupied a large part of the program of the Petroleum Division at its meeting. The study embraced determination of anti-knock qualities of cracked gasoline, color and gum formation and elimination and two papers were presented on cracking methods.

The non-detonating qualities of cracked gasoline have been the subject of numerous papers and almost endless discussion during the past year. At the present meeting the petroleum chemists appear to have assumed that that argument is finished. No one challenged the fact.

Discussion centered on the measurement of the elements in gasoline which have anti-knock qualities. Three methods of determination were presented at the various sessions to supplement the the actual motor test of how a given gasoline knocks under various conditions of operation.

Testing Methods Sought

G. H. Clay of the Cross laboratories at Kansas City, suggested a determination of non-detonating qualities by fractional gravity distillation. In this method it was suggested that distillation be carried out in the usual manner except that specific gravity readings be made as each 2½ per cent of the sample is distilled over. The position of points on the distillation curve fixed in this manner were put forward as an excellent test.

A. M. Erskine of Hamilton College, Clinton, N. Y., presented a method for the precise determination of aromatics in gasoline. He asserted that his tests have shown that a lowering of the critical solution temperature of gasoline and nitrobenzene by the presence of aromatic hydrocarbons is directly proportional to the percentage by weight of the aromatics.

The testing method provides for the removal and fractionation of aromatics from a given sample. The solubility temperature of equal weights of each fraction and nitrobenzene is observed before and after sulfonation. The rise in the solubility temperature multiplied by the proper factor gives the percentage of benzene, toluene and xylene within 0.1 to 0.2 per cent.

The same speaker reported results of tests showing the presence of aromatics in natural gasoline.

NPN Staff Photo
D. P. Barnard, Standard Oil Co. of Indiana; T. A. Boyd, General Motors Research Corp.; W. J. McGill and W. H. Bahlke, both of the Standard of Indiana

NPN Staff Photo
H. W. Young, Midwest Refining Co., Casper, Wyo.

Gustav Egloff suggested that amounts of various series in the gasoline be determined by first washing with 80 per cent sulfuric acid, determined napthenes by the aniline method, the aromatics by nitration and the paraffins by difference.

Various methods suggested for determining the anti-knock qualities of gasoline were prompted partly by the expense of installing the elaborate machinery necessary for motor testing. The cost of a motor test apparatus is in excess of $2,000.

Factors in Cracking

E. H. Potthoff of the University of Michigan, presented a paper written by himself and E. H. Leslie on the effects of temperature, pressure and time as independent variables in the cracking of liquid petroleum products. Tests were carried out on reduced crude, straight run gas oil and Dubbs residuum.

Pressure does not have as much effect as the time element in cracking, according to conclusions of the authors. At the beginning of a run pressure was built up from an outside source in the apparatus without important change in the amount of gasoline produced. Pressure increases were effective only when built up over a period. An increase in temperature from 700 to 800 degrees was found to increase the production materially.

A paper written by S. J. M. Auld and A. E. Dunstan described the A. D. H. cracking process which is designed to maintain cracking stock in a liquid phase throughout the operation. Diagrammatic sketches were shown of the experimental apparatus in which the oil was heated to the required temperature and transferred to a second chamber or bomb without material change in temperature and without vaporization.

Hydrogenation

The theory that increased hydrogen content of gasoline will minimize knocking has caused C. C. Wagner of the State Teachers College of South

Dakota, to make experiments in hydogenation which were described to the chemists. The theory was advanced by the speaker that hydrogenation might be of material aid in stabilizing color conditions of a cracked product. He described results of passing gasoline vapors over finely divided nickel and platinum in the presence of hydrogen to produce an increased percentage of unsaturates. Mr. Wagner's paper is published on another page in this issue.

Harold S. Davis of A. D. Little, Inc., Boston, showed samples of tertiary alcohols separated from cracked petroleum. He described tertiary butanol which has a boiling point of 180 degrees F. and tertiary amyl alcohol with a boiling point of 215 F. The tertiary alcohols appear similar to the primary and secondary alcohols but have different properties. It was mentioned that one grade has a market value of more than $400 per pound and is valuable in the preparation of musk.

Robert E. Wilson, Standard Oil Co. of Indiana, who acted as chairman of the Lubrication Symposium, and L. W. Parsons, Tidewater Oil Co.

Color and Gum in Gasoline

DESPITE the fact that government requirements regarding color have been eliminated from the specifications of U. S. Motor gasoline, the chemists gave this subject a good deal of attention at their meeting. It was mentioned that a large number of distributors demand a water white product and probably will continue to do so for some time.

A paper by James R. Withrow and Albert H. Vilbrandt detailed curious changes in the color of gasoline during storage. It was reported that a jobber placed about 75 cars of gasoline in storage and that when it was withdrawn it had attained a decided yellow color. It was shown that the color was bleached out on exposure to sunlight. Another gasoline which came from stills in a yellow condition was not affected by sunlight.

Following is a summary of the finding of the authors:

1. A gasoline when exposed to sunlight for two hours decreased in color from a plus 16 Saybolt to a plus 21.5 Saybolt and reverted to a plus 16 Saybolt when put in semi-darkness for 24 hours.

2. A gasoline which when exposed to sunlight for two hours bleached from a plus 1 Saybolt to a plus 19 Saybolt color and which reverted to a plus 17 Saybolt when put in dark for 48 hours.

3. The effect of heating a sample of colored gasoline apparently had little bleaching effect as noted by color of residue during distillation.

4. Exposure to diffused daylight also tends to bleach the gasoline as evidenced by the fact that a sample having a colorating of plus 1 Saybolt was decolorized to a plus 17 Saybolt in three days' time, attaining a color of plus 16 Saybolt at the end of 24 hours, with intervening darkness of about 12 hours.

Some other chemists reported similar findings. One stated that he has kept samples from different cars of gasoline shipped from the same tank, some of which would go off color while the remainder would stay water white.

In place of darkness causing gasoline to go off color experience of many has been that sunlight through the gasoline in visible pumps often causes gasoline to become yellow.

The theory that acidity causes discoloration in gasoline was advanced in a paper by Benjamin T. Brooks. He reported that even slight traces of acidity cause discoloration in gasoline and kerosene which originally were neutral and of good color. This condition has been found even in straight run gasoline which never have been acid treated.

Oxidation by air does not cause discoloration of either saturated or cracked products, by themselves, even when the normal oxidation products of the hydrocarbons themselves are added, or have accumulated to a considerable extent.

Dr. Brooks stated that it never has been proven that the di-olefins are responsible for gum formation. He showed, however, that gum formation is a general property of unsaturates, though at very different rates. He stated that the first step in gum formation is the formation of peroxides.

"Gum, when freshly formed," he said, "is essentially a mixture of peroxides, ketones, aldehydes and organic acids. The formation of peroxides is connected with oxidation of other substances, including sulfur compounds. In this way the oil is first 'sweetened,' followed by the development of sufficient acidity to form the cloudy appearance often noted, followed by discoloration caused by this acidity." He said that the addition of even 1/10 of one per cent of SO_2 will knock down the color of a gasoline from 4 to 5 points in a few hours.

Pure Hydrocarbons

Fractionating of pure hydrocarbons in a series of towers was reported by G. G. Brown and A. R. Carr of the University of Michigan. It was shown that pure hydrocarbons of boiling points up to 150 degrees may be obtained by systematic fractionation at atmospheric pressure. The experimenters obtained samples of isopentane, isohexane, normal hexane, normal pentane, normal heptane, isooctane and normal octane and normal nonane.

N. A. Stephens of Barnsdall Refineries Inc., reported on an investigation of Tonkawa crude which showed the presence of cyclohydrocarbons.

Walter G. Whitman of the Standard Oil Co. of Indiana, reported on experiments to obtain the specific heats of various petroleum oils over tem-

NPN Staff Photo
R. R. Matthews, Roxana Petroleum Corp., and W. E. Perdew, Derby Oil Co.

peratures ranging from 50 to 450 degrees F. He presented the following formula for obtaining specific heat where C is specific heat, t the temperature in degrees F. and Sp. Gr. 60 is the specific gravity of the oil at 60 degrees F. The equation fits the data with an average deviation of less than 2.5 degrees but probably is inaccurate at points near the critical temperature.

$$C = \frac{(t + 670)\ (2.10 - \text{Sp. Gr. } 60)}{2030}$$

First Lubrication Symposium Held

THE symposium on lubrication was the first on that subject conducted by the American Chemical Society. Robert E. Wilson of the Standard Oil Co. of Indiana, was chairman during the two half days at which 17 papers were presented.

Many of the speakers at the symposium made use of the recently announced formula for arriving at the coefficient of friction which is becoming rather generally accepted. The equation is expressed as F equals Z times N divided by P, where F is the coefficient of friction, Z the viscosity of the oil, N the speed of the bearing or R.P.M. and P the bearing pressure.

Discussing the equation's bearing on lubrication problems Chairman Wilson said, "At high speeds, with viscious oils, or with low loads, the coefficient of friction is high and the fluid film is thick. As ZN over P decreases, the coefficient of friction drops off in almost direct proportion and the fluid film gradually thins out.

"Eventually the film thins out so far that the surface irregularities begin to touch, the friction rises sharply, and abrasion begins. This critical point of film rupture is probably the most important characteristic of a bearing."

Looking into the future, Dr. Wilson said that the work most needed is a study of the effect of smoothness and structure of practical bearing surfaces on the location of the critical point with a view to lowering that point much below that found today. He indicated that ignorance of the true critical point is responsible for manufacturers building machines with such a great factor of safety that friction losses are great and bearing costs are too high.

D. P. Barnard of the same company showed chemists exactly what happens in a bearing in a motion picture which was taken of a shaft revolving in a glass bearing.

A. E. Becker of the Standard Oil Co. of New Jersey, reported on a series of tests on which he has been working for six years in testing the action of oils on various types of bearings made of different metals.

W. C. William of Westinghouse Electric and Manufacturing Co., concluded that refining does not destroy the "oiliness" of petroleum oil when he described a series of static friction tests on refined oil, crude oil and various fatty oils and fatty acids. He concluded that an ideal lubricating oil would be one of low kinematic viscosity, fortified with a small amount of material that would build up an appreciably thick, strong adhering film of low internal friction on the rubbing surfaces.

Diesel Engine Lubrication

R. R. Matthews of the Roxana Petroleum Corp., reported how one company solved its problems of Diesel engine lubrication after much difficulty. The plant began using an oil with a viscosity of 82 viscosity at 210 degrees F which showed a consumption of one gallon for 750 horse power hours. On this oil average running time for six months was 91.7 per cent and shut down time was found to be 87 per cent due to faulty lubrication.

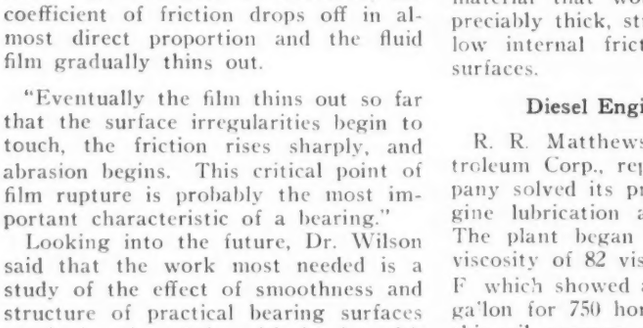
Other oils were tried without success and finally the operators turned to water injection. This seemed to work well but when an engine was overhauled it was found that cylinder walls were pitted and the port nearly closed with a deposit of carbonaceous matter.

W. L. Gomory, Chicago, Consulting Petroleum Technologist and inventor of the Gomory Cracking Process

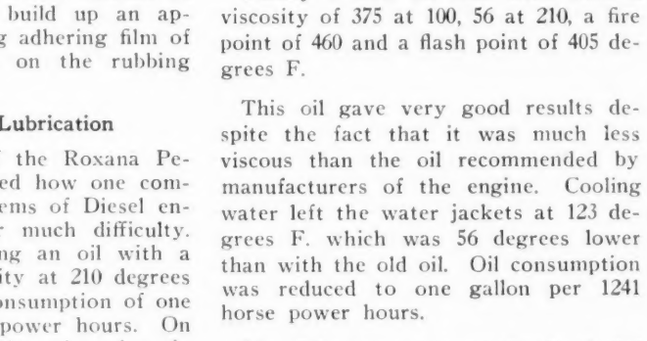
Finally a new oil was tried with a viscosity of 375 at 100, 56 at 210, a fire point of 460 and a flash point of 405 degrees F.

This oil gave very good results despite the fact that it was much less viscous than the oil recommended by manufacturers of the engine. Cooling water left the water jackets at 123 degrees F. which was 56 degrees lower than with the old oil. Oil consumption was reduced to one gallon per 1241 horse power hours.

Mr. Matthews expressed the belief that an oil of 300 to 500 viscosity at 100 probably is better than a much heavier oil for Diesel engines and that the variety of oils used probably can be cut down to one.



Chemists were taken on a visit to the Texas Co. refinery in West Tulsa in busses



Chemists entering Texas Co. refinery, West Tulsa, for an inspection of the Holmes-Manley Cracking Process

Wholesaler's Margin Based on Group Three Refinery Price Ordered by Court

By V. B. Guthrie
N. P. N. Managing Editor

QUANTITY discount agreements have been knocked into a cocked hat in the state of Tennessee, temporarily at least through a court order against the Standard Oil Co. of Louisiana establishing a 3-cent differential between the tank car price for gasoline laid down and the tank wagon market, as published in the April 7 issue of National Petroleum News.

Further, this same chancery court at Murfreesboro has laid down the principle that this differential must be between the tank car price on the basis of the Group Three refinery market and the tank wagon price, and not 3 cents figured on the Standard's own tank car price.

This interpretation of an earlier injunction as being based on the Group Three refinery market was effective in a court order as of April 1. This has caused the Standard Oil Co., which figures its prices on refining costs and freight rates from its Baton Rouge, La., refinery, to adjust its tank wagon and service station markets over the state, advances of from half a cent to two and half cents being made at different points.

This ruling by the court, which is in an injunction proceeding brought Jan. 2 by 24 Independent marketing companies in the state to restrain the Standard and six other integrated companies from selling to private consumers at tank wagon or tank car prices, lays down, as far as is known, new legal principles in connection with price making. Not only does it fix a definite margin for the wholesaler or middleman which the company both manufacturing and retailing must recognize; but it also makes the price basis something other than the costs of doing business of the company involved. Oil men in the state are wondering if the Standard must change its retail price schedule to conform to all changes in the Group Three open refinery market.

Under Anti-Trust Law

The proceedings are brought under the state anti-trust law. In the case in which the Standard Oil Co. of Kentucky was ousted from the state in 1907, the state supreme court ruled that officers of one company could enter into a conspiracy among themselves to create a monopoly —that collusion between separate companies was not necessary. This explains why the court has proceeded more or less independently against the Standard, on the grounds of joint action by its officials, without establishing conspiracy with other companies.

The case is set for trial on its merits May 31. Officials of the Standard are convinced the introduction of evidence both by themselves and the Independent companies will result in the present court order being vacated. In the meantime, the Standard has adjusted its price schedule to allow the 3-cent differential between the Group Three tank car price and its tank wagon markets and another 3-cent differential between tank wagon and service station price, which differential the court has also recognized. It has given up what little tank car business it had in the state.

The Standard maintains that, while other companies are named as defendants to the injunction proceedings, these other companies and the Independents as well are not recognizing the differentials set down by the court. It claims, which the Independent companies virtually admit, that the action is aimed directly at them because of their use of the quantity discount agreements. It says it has lost considerable business as a result of the court order.

When the injunction proceedings were brought by the Independent companies early in January and a restraining order issued by the court, the Standard Oil Co. interpreted Chancellor Lytle's order as applying to sales to commercial accounts from the service station below the full retail price and this class of business it says it discontinued. It did keep on making sales from its tank wagons to commercial accounts at concessions according to the volume of gasoline, this on the advice of its counsel.

Cite Standard in Contempt

Independent companies which were plaintiff to the suit appeared before the court about six weeks ago and set up that the Standard was not abiding by the temporary restraining order. Standard Oil officials were cited into court March 12 and it was in the course of this hearing that the court brought out that it had in mind the 3-cent differential below the tank wagon price for the wholesaler as being figured from the Group Three refinery price laid down. While charging these officials with contempt for failure to carry out the original order, the court issued no fines, saying that the Standard had been acting in good faith on the advice of counsel. The restraining injunction reads as follows:

"Issue the writ of injunction as prayed in the bill restraining the defendants from selling gasoline in the State of Tennessee, either in tank or car lots, tank wagon lots, retail or otherwise, without maintaining and selling at a reasonable, usual and customary differential, as described in the bill, between the price of gasoline sold in tank car lots and tank wagon lots, and that sold in tank wagon lots at retail, and from carrying out the combination alleged in the bill, by subterfuge, or otherwise, directly or indirectly."

Mr. Scholder on Stand

C. O. Scholder, New Orleans, vice-president of the Standard Oil Co. of Louisiana, was the only oil man to appear as a witness at the March 12 hearing on the contempt citation. He was asked regarding the company's policy in selling wholesale customers from the tank wagon after the original restraining order was issued in January. It was after his statement that Chancellor Lytle ruled that the Group Three refinery market must be the base price.

"The oil companies will benefit by the decision, but it came uninvited and will put a tax on many people for the gain of a few," Mr. Scholder stated in Memphis later. "The ones who will profit are the jobbers who buy in tank car lots and sell to the retailers. The effect of the decree is simply to make the producing companies that sell consumers through their own distributing agencies charge customers with the 3-cent differential they have heretofore been absorbing."

Newspaper comment in Memphis at the time the court order of April 1 was made, questioned the popularity of the order. "Court order adds to cost of running auto," one paper said in its headlines, "Gasoline goes up to conform to Chancellor's order." An editorial under the heading of "Injuncting Upward," said, "Raising prices by law is one of the new wrinkles in modern business... The reasoning is interesting. A similar line of reasoning would subsidize all of the old livery stables, with their horses and buggies, all the old sickles against self-binders, and all the tallow candlemakers against the electric light manufacturers. .....The injunction may be according to the law as it is written, but the consumer has to pay more for his gasoline."

While the action of the Independent companies seems to be directed against the Standard Oil Co. almost exclusively, with the Gulf Refining Co. second in interest, they charge the other defendant companies work in harmony with the Standard.

Judge H. D. Minor, and W. H. Fitzhugh, both of Memphis, represent the Standard Oil Co. in the suit. Judge J. J. Lynch, Chattanooga, is counsel for the Independent companies.

Discussion of Q. D. A. Becomes Heated At N. P. M. A. Convention

By Ward K. Halbert
N. P. N. Staff Writer

CHICAGO, April 7.

NATIONAL Petroleum Marketers Association's annual springtime "Industrial Conference" in progress April 6, 7 and 8 at the Congress Hotel, Chicago, may forever be distinguished from all the others by calling it the "Q. D. A. Convention." One purpose has swayed the meeting; and that purpose has been to get at the bottom of the quantity discount sales plan which was announced publicly to the oil trade early last July by the Standard Oil Co. of Indiana.

Of the persons registered at the convention, numbering between 600 and 700, probably half were oil jobbers and most of them attended every business session scheduled on the official program. And it was the Q. D. A. that provided the one absorbing topic of discussion Tuesday afternoon, Tuesday evening, Wednesday morning and part of Wednesday afternoon.

Scores of oil men talked. Some of them related experiences, some of them expressed opinions, some only registered emotional reactions like anger and alarm; and about the middle of the afternoon on the second day of the convention a resolution was adopted authorizing the president and board of directors of the N. P. M. A. to proceed against the Q. D. A. with whatever means in their judgment might seem effective, whether it was the clearing house for mutual interchange of gallonage coupons which President L. V. Nicholas has advocated for nearly a year, or whether it was court action against abuses of the Q. D. A.

Discussion Starts at Once

The elaborate discussion was precipitated Tuesday afternoon by Mr. Nicholas in the brief address with which he opened the convention. There were no elaborate opening exercises to this convention. The curtain rose at 2 o'clock Tuesday afternoon; the stage setting was simple; Mr. Nicholas named the subject and the free-for-all started. Some of the biggest Independent oil men in the industry proclaimed the Q. D. A. to be the Standard Oil Co's. way of eliminating its competition, and they had with them the majority of the assembly. A few disagreed and did so openly and vehemently.

In the first 15 minutes of the first session Mr. Nicholas had recited briefly the history of the Q. D. A. as it came to light in the industry and was announced to association members through the N. P. M. A. bulletin; he had pointed out its principal economic features; had warned of its peculiar dangers to Independent oil men; had urged the membership to do something about it while they were in this meeting, and finally at the request of C. M. Glass, Mason City Oil & Grease Co., Mason City, Ia., read aloud the description of the association's proposed plan to meet it through the agency of a co-operative clearing house for Q. D. A. paper.

In order that the sense of the remarks of as many of the oil men as possible may be presented here, their talks necessarily are abridged, but as far as possible their diversified ideas and opinions are told here in their own words:

What They Think of It

L. C. Nicholas: "We have sent to each and every member a special request that they bring to the meeting special ways in which this (the Q. D. A.) is operating in their territory or points that they think should be discussed, and we will hope during the afternoon and evening to hear from all of them.

"We are going to read into the record today, and possibly tomorrow, situations where this thing has broken down and should be corrected."

R. D. Seeley, Mason City Oil & Grease Co., Mason City, Ia.: "We are attempting to do something after the horse has been stolen. The damage was done in this particular instance, but it could not have been done to so great a degree had we all been functioning as an organized association, as it was possible for us to do. In other words, I can not see how we can do other than meet it as it is the Q. D. A. contract. We expect to continue to meet it until the contract is eliminated so far as we are concerned."

Mr. Nicholas: "Mr. Seeley makes the statement that for the Mason City Oil & Grease Co. they have met the Q. D. A. In all fairness and friendliness, I want to tell my friend Seeley he is crazy with the heat, he has tried to meet it. There is no man in this room, there is no one outside the Standard Oil Co. who is big enough to meet this thing unless we meet it collectively. It can't be met by any individual firm. It is impossible. I have been down to New York and talked to the biggest people in the business, and they admit that. Let us not kid ourselves that we meet it. We are trying to meet it and we are not doing it very successfully.

"I think there are in many instances glaring evasions of the contract itself. If you men will mention those evasions here they can be cleared up immediately, because I don't think the chief executives of the Standard Oil Co. intend to have it.

"In Madison, S. D., The Texas Co. closed a contract with the Farm Bureau to give the Farm Bureau members the Q. D. A. discount on their retail purchases, a very arbitrary grouping, to my mind, unless it is the intention of The Texas Co. to try to make this contract so irritable to the Standard Oil Co. with their interpretation of it that they will discontinue it."

J. M. Giles, Giles Oil Co. Cynthiana, Ky.: "The Standard is writing a Q. D. A. contract 4 cents under the service station price, 1 cent under the garage price. You have to go to their service station to get it. They don't sell any dealers outside at all, they just sell the individuals, giving a 4-cent margin."

C. H. Armould, Armould Oil Co., Quincy, Ill.: "Sinclair will give to anybody who buys gasoline for filling station or curb pump, 1 cent under the regular tank wagon price, and in addition to that they are selling any quantity of coupon books to anybody who wants to buy them at a flat discount of 10 per cent. I know of several cases where their own truck drivers and filling station men are buying $10 worth of coupons for $9, turning in a few of them every day, and making a little extra money for themselves. That sort of program should not be long defeating itself."

R. G. Cunningham, Cunningham Oil Co., Miami, Okla.: "We have a little different situation in regard to the Q. D. A. than I have heard of before. I know I am talking straight, because the Standard Oil Co. agent told me himself and I managed to get the rest of the information out of the filling station manager. They write a contract on the 2-cent rebate plan. The filling station man holds the ticket, and the buyer at the end of the month takes them down and takes off the 2 cents, figures an additional 5 per cent off, comes back and takes the coupon books out and sells them to himself with a 5 per cent discount to make the accounts all square out."

Carl J. Westlund, Cardinal Petroleum Co., Muskegon, Mich.: "There is a service station in Muskegon getting 2 cents under the price. The complaint is that they are making an open cut instead of a secret cut. The Carson Petroleum Co. are shipping these cars in there. We have been fighting this man now since Jan. 1. It seems as though we can't do

anything, and it is getting quite serious. We are alarmed at a general cut over the entire territory.

"I would also like to report that the Brunswick-Balke-Collender at Muskegon had a company Q. D. A. contract with the Standard, and the employees of the Brunswick-Balke-Collender had 47 individual Q. D. A. contracts, so that they were all getting their gasoline at 2 cents a gallon discount. None of the individuals buy the minimum amount, let alone the maximum, but collectively they do."

Mr. Nicholas: "As I understand it, there was a contract of that kind written in Michigan in which the engineer of one of the state institutions, the asylum or some institution of that kind, took the contract in his name and it was to include all of the employees of the association, that is of the hospital or institution. As soon as this was called to their attention, I understand that contract was cancelled."

J. M. Wolf, Southern Minnesota Oil Co., Fairmont, Minn.: "In Minnesota The Independent Oil Co. of Winnebago had a contract with the Farm Bureau of that county not on a gallonage basis, but they will refund at the end of the year on the percentage purchase on both gasoline and kerosene. They have operated for the last five years and had one truck. Since they made this contract Dec. 1, they have put on seven trucks in that county. They have every Farm Bureau member buying all their petroleum products through the Farm Bureau and I think they get practically all of their supply from the National Petroleum Marketers Association."

R. D. Seeley, Mason City Oil & Grease Co., Mason City, Ia.: "Aren't we drawing an imaginary line with reference to the Q. D. A.? In other words, in fairness to these large companies that we are mentioning, isn't it only fair for us to acknowledge that as a whole we men in the oil industry had substantially the Q. D. A. in operation a long while before the Standard put it in? We ourselves were doing the same thing, only in a small way. I know it was true in our territory, with ourselves and with our competitors."

J. Shlifer, Intercity Oil Co., Philadelphia, Pa.: "The Standard of Indiana has got wings. Out in Philadelphia where we have the Gulf Refining Co. and the Sinclair we don't have any Q. D. A. If you build a garage, before you open your doors the Gulf Refining Co. will give you anywhere from $75 to $150 during the building of the garage for the privilege of putting the gasoline in. They continue that with a ten-day clause to cancel. Sinclair will do the same with 3 cents under the tank wagon price. Gulf has gone as high as 3½ cents."

H. H. Ragle, Federal Petroleum Co., Jackson, Mich.: "To the best of my knowledge the state of Michigan has signed a Q. D. A. agreement of the Standard Oil Co. by which they obtain the benefit of a 2-cent maximum rebate. I heard the figures concerning the amount they got back for the first six months of operation, but I have forgotten them. It was something like $13,000 or $15,000, I understand, but I don't believe it was in excess of 2 cents per gallon."

J. F. Edmonds, Service Oil Co., Hastings, Mich.: "As a matter of history, we had the county road system in the state of Michigan and we had their business until Jan. 1 when the State Highway Commission took it all over. The next day all their trucks drove over to the Standard stations."

T. E. Bedford, Central Gas & Oil Co., Flushing, Mich.: "We have an Independent oil company. The farmers went into the oil game over in our town. They have 270 members. Those members all get their gas when they can use it at the tank wagon prices. When the rebate gets small, they buy off of me, and I call that velvet.

"The Q. D. A. hasn't, in our opinion, hit our business in the least. When we heard of any secret processes, before the Q. D. A. went into effect, we immediately went over and talked to the prospect and told him anything the Standard Co. offered we were in a position to offer him, too, and that our money stayed in the town and theirs went out.

"We haven't had any trouble with the Q. D. A. plan. In fact, things are better since the Q. D. A. went into effect than before, because we know just what they are doing now and we didn't before."

G. A. Primm, Illinois Petroleum Marketers Assn., Springfield, Ill.: "The Indian Refining Co. in Illinois, are disregarding the Q. D. A. and trying to meet it, perhaps going a little further on leased equipment, with a rental charge on equipment or, in other words, for the privilege of handling their merchandise. I think that is part of the Q. D. A."

G. D. Givens, Home Oil & Co., Henderson, Ky.: "I am just outside the Q. D. A. territory, and from what I have learned from those who have talked this afternoon, I think you gentlemen who are living within that territory are to be congratulated. In my territory we have a 3-cent rebate through the service station. It doesn't matter how much you use, they make a contract with a concern, and that concern and all of its employees may have 3 cents off through the service station. As compared with the experiences I have heard, I think you folks in the Indiana territory are to be congratulated."

William F. Burke, Kentucky Independent Oil Co., Covington, Ky.: "The Standard Oil Co. coupon price in Kentucky is based on a price 3 cents below the service station price. I think that explains that situation entirely for Mr. Givens."

Fred F. Sefton, John Hancock Oil Co., Minneapolis, Minn.: "I would like to go on record as paying Paul Hadlick, secretary of the Minnesota State Association, a compliment. He went over to the state highway commission, and to the governor himself, and sold the state a Q. D. A. contract. I want to say that in protecting ourselves, our company put in a cancellation clause and the Standard haven't that."

On Wednesday morning, April 7, the discussion of the Q. D. A. was renewed by the introduction of two interesting pieces of correspondence. The first was read by Mr. Nicholas as follows:

Discount on Oil Too

"This letter was handed to me last evening with the request that we do not involve the company to whom it was addressed. For that reason, I will just read you the body of the letter.

"Your letter of Feb. 10 was addressed to Mr. Blank and has been referred to me. I was a little surprised after reading your letter regarding our purchasing gasoline and oil from the Standard Oil Co. of Indiana. It is true that while we might be comparatively a small buyer at one certain point we have something like 1000 trucks in operation, and I am quite sure you can appreciate what the discounts offered by the Standard Oil Co. of Indiana means to us in reducing our cost of operation.

"There is nothing out of the ordinary in this agreement, as I am sure your company or any other company would avail themselves to buying satisfactory grades of gasoline and oil at the lowest prices. If your company would care to submit a bid for our business on the same basis as that of the Standard Oil Co. of Indiana, which is a 2-cent gasoline discount and a 5-cent discount on a quart of oil, there is no question but what you will receive our business. Will you kindly let us hear from you?"

"That 5 cents on a quart of oil is a new wrinkle to me. Has anybody else heard of that? Is there anybody here who has ever heard of the 5 cents a quart on oil?"

F. H. Buehler, Dakotah Oil Co., Madison, S. D.: "I would like to read one other letter into the record because it comes from one of the large refining organizations who could not be represented here today, unfortunately:

"We of course are interested in a general way as we must always be interested in the marketing policy of the good jobbers upon whom we depend entirely for our outlet. As you probably know, we have no distributing stations of our own and do our best to sell our products to the well established jobber who practices good ethics in his jobbing. It is my personal opinion, with very large distribution the competitor has inaugurated the Q. D. A. system and does not average so nearly as large a discount as the single jobber who is operating in a limited territory, especially if the jobber is operating in a city or a vicinity of a considerable distribution where a large percentage of the trade is entitled to a discount.

Undoubtedly it is causing the jobbing operators in the larger cities a great

deal of trouble, and I am not surprised the methods of meeting this competition are as you state, varied and bewildering. It would seem each jobber is trying to work out his own problem and some probably consider their problem as peculiar to their own individual case, but I can agree that the problem of one is the problem of all, and I am entirely in sympathy with your efforts to bring about cooperation on this. It would seem to me it would bring about a generally better condition. It is entirely up to your organization to discover and apply any remedies, and I believe you and your organization are capable of bringing about better conditions. I wish you every success."

On Tuesday afternoon Mr. Nicholas had appointed a committee to deliberate and suggest a definite plan for meeting the Q. D. A. competition. The committee consisted of A. T. Locke, a Chicago jobber; Paul Hadlick, secretary of the Minnesota jobbers; J. A. Gilmore, secretary of the Michigan jobbers, J. H. Cumbow, Cumbow-Lanning Oil Co., Sioux Falls, S. D., and C. H. Armould, Armoulds Oil Co., Quincy, Ill.

Wednesday forenoon Mr. Gilmore reported for the committee that its members had given up the assignment as a hopeless task. The committee did, however, propose a resolution to the effect that the N. P. M. A. should continue its investigation in order to be in possession of all the facts but not to take any collective action until after the legal investigation of the Q. D. A. in Wisconsin had been finished and a departmental or court ruling in the matter be made available. The resolution was formally proposed by William F. Burke, Kentucky Independent Oil Co., Covington, Ky., and adopted.

Cites Clark's Testimony

After the adoption of the resolution, Don E. Montgomery of the Wisconsin Department of Markets favored the gathering with a brief recitation of the history of the investigation of the Q. D. A. in his state. He closed his talk by reading an excerpt from the testimony of John D. Clark, Standard Oil Co. of Indiana, at a recent hearing of the Wisconsin investigation, virtually assuring the state authorities that the Standard Oil Co. was ready to make some sort of an amicable agreement with them in regard to the Q. D. A., so far as the state of Wisconsin was concerned.

The next speaker on the floor was H. H. Ragle, head of the Federal Petroleum Co., Jackson, Mich., and president of the Michigan jobbers. Among other things he said:

"We operate 18 bulk stations and somewhere in the neighborhood of 75 service stations and in addition to that we have quite a number of Independent service stations and garages on our list of customers and everybody who buys our gasoline is paying the full tank wagon price and the full service station price without any secret rebates or subterfuge of any kind. We disregard the Q. D. A."

L. L. Coryell, Coryell & Son., Lincoln, Neb.: "I am not going to meet this Q. D. A., and I am going to sell my gasoline. That is just the way I feel about it. I didn't say a word in this convention because I didn't want to raise any discussion about myself, but I don't intend to sell gasoline to one man for one price, and to another man for another price. They can do just as they darned please about it. I am able to stand the shock, thank God!

"The same key that will lock my establishment will unlock it. When they get me where I can't do business I will lock up. When they get so I can do business at a profit I am going to unlock it. I am not going to meet the Q. D. A., and I am going to get more money out of my gasoline than any man in town, and I am going to put my price sign out in front and it is going to be an honest sign. That sign is 2 cents below most of them in Des Moines and St. Joseph. They can call that a cut price station if they want to. I am getting more money for my gasoline than any man in town, but I am getting it in a different way. A man with an old three-legged Ford can buy gasoline just as cheap as the Cudahy Packing Co. can."

Edward O'Rourke, Jr., Penn-Marr Petroleum Co., Fort Wayne, Ind.: "How do you justify your position with reference to members of the association in Des Moines, Independents, who have a large overhead, who have tank wagon service? How do you defend your position as selling at tank wagon to everybody when the other gentlemen operating as Independents have an ethical, (let me call it such) policy to pursue on a straight marketing practice of selling gasoline? In other words, I am not taking your remarks as advocating any set policy for the marketing of gasoline. Isn't your position just what we are fighting all over the country in what we term the gasoline bootlegger situation?"

Mr. Coryell was almost forced into the general discussion by being called from the audience by L. V. Nicholas, presiding. He declared by way of introduction that he did not set himself up as an example but was ready to defend the economic soundness and moral fairness of his actions. His merchandising method of taking his tank wagons off duty and meeting the Q. D. A. with an open 2-cent cut to everybody was severely criticised by several persons present.

Mr. O'Rourke of Fort Wayne led the attack on Mr. Coryell's plan. Rupert Cox, Central Oil Co., St. Joseph, Mo., who is one of Mr. Coryell's competitors also found fault with it as being unfair to competitors regardless of how fair a retaliation it might be to the bigger companies. His contention was in defense of the bigger Independents who have investments to protect and are not in a position to turn the key on their businesses when margins become too narrow Fred E. Bergfors, Quincy Oil Co., Quincy, Mass., came to Mr. Coryell's defense, and so did George Coryell, brother to L. L., who operates filling stations in Lincoln, Neb., only. George Coryell said in part:

"I have been watching what my brother has been doing and I have been very much interested. I believe if the Q. D. A. ever hits Lincoln, Neb., there will be another Coryell doing just like he has done. I will not go below what other people are selling it for, but I will go down that low and have one price to the widow and one price to the millionaire. There is no reason why they should get their gasoline any cheaper because they are bigger. If the Q. D. A. is ever broken, this is the method that will break it."

J. Shlifer, Intercity Oil Co., Philadelphia, followed Mr. Coryell saying in part: "In Philadelphia, we have the same conditions. We have one price to every one of our customers. We haven't any service stations; we sell to the garages and service stations. We have one price, 2 cents under the tank wagon price, eight months after the other big companies had been in operation with it, with the exception of the Atlantic Refining Co. They only give it in a few instances. Gulf does the same thing with about 70 per cent of their customers. They have one customer to whom they give a rebate big enough for him to sell gasoline for 15 cents, 2 cents under the tank wagon price, across from one of their own stations, that is selling for 20 cents. If we let them bulldoze and let them think we are afraid of going broke if they give us a little battle, what is the use of calling ourselves Independent? When they are in one territory and getting the full price, or a little more than they are in this gentleman's territory, give them a little battle in the other territory where they are not giving the full price, and help to tear them down."

Mr. Nicholas: "I want to get this over. We are trying to face something that is fundamental and has got to be faced. This National Association has told you for several years that if you men would club together, a man like Coryell, couldn't buy gasoline if he cut the price. Coryell only represents a condition and he represents it in a clean way. The thing for us to do is to get together and do something

"Don't forget that the governor of South Dakota went into the oil business with the gasoline that The Texas Co. were tickled to death to sell.

"I stand pat on my record as I read it to you yesterday that I think the Q. D. A. as the Standard Oil Co. put it into effect was a real effort to stabilize a rotten situation that was getting worse, and I think if we had collectively met it we might have gotten somewhere. We didn't. We are still talking about it.

"I cite you to a letter that I read last evening from the department of highways of the state of Missouri, advising all the employees of the department of highways in Miss-

ouri that they could go to the Standard stations after this and without going through the form of making the charge on the full price and rebating at the end of the month, the Standard Oil Co. would make the cut price charge at the time of the sale and it even says, 'If you apply these in form of cash, just pay the cash at the time at the low price.' That is just another form that the Standard Oil Company are doing of just exactly what Coryell is doing.

"We don't agree with Mr. Coryell but we say he is entitled to that viewpoint. I think if Coryell sold less stuff and got 2 cents more he would be just as well off at the end of the month. In fact, he might be a lot better off. I don't agree with him. I think it is a rather brutal way of meeting the situation and I don't know that it will do anything but increase the turmoil."

C. J. Westlund, Cardinal Petroleum Co., Muskegon, Mich. "I kept a close check on the Q. D. A. refund since last Aug. 1, and it amounted to less than four-tenths of a cent a gallon."

W. D. Cross, Jr., Cross Service Co., Geneva, Ind.: "The Q. D. A. is fundamentally right. I may be the only one here who thinks that, but I am really of the opinion that the Q. D. A. itself from a buying standpoint is correct in every way, and we have just forced one angle of it against another until we have got in a position now where it is not 2 cents on 10,000 gallons, but it is whatever you want to give."

"I just want to make this statement further. I was in the center of one of the most disastrous price situations that the United States has ever had. I closed up until it was over, without losing a customer. I have checked up, operating in five small towns on the Q. D. A., and find that I have to give less than one-half cent to meet it and I have not lost a customer to the Q. D. A. that I know of. It may be different in the cities, but the rebate when given is less than half a cent on the general average."

H. D. Kleinschmidt, Mercantile Oil Assn., Wright City, Mo.: "I agree with the gentleman who just spoken that the Q. D. A. is absolutely a fundamental principle put out by the Standard Oil Co., and I don't think the Q. D. A. will retreat from its present position. I used to be with the Standard Oil, and when I used to bring up with the superintendent at St. Louis the fact that we were hauling gasoline to the farmer in 50 gallon lots in the same price that we were selling to the big garage owner I saw that it was absolutely wrong and the Standard Oil Co. knew it was wrong. They had to meet these conditions."

TULSA.—Earle S. Porter, of the New York office of the Amerada Petroleum Corp., has been spending several days in the Tulsa office of the company, incidentally attending the meetings of the American Chemical Society.

Court Enjoins Price In Nebraska

CHICAGO, April 8.—Out in Nebraska a district judge by the name of E. R. Raper has enjoined the Standard Oil Co. of Nebraska from meeting competitive cut price conditions in a town where they operate. Judge Raper did so after the attorney general, Ora S. Spillman, had made the necessary complaints and petitions.

Mr. Spillman will be remembered as one of the attorneys general who met in Minneapolis four years ago and stirred up a great deal of grief for the petroleum industry. He has not ceased to try. Some of his contemporaries really made the oil business quite a lot of trouble. Mr. Spillman was never successful in any of his attempts. The fact that he is prosecuting this case is one encouraging thought for the Nebraska oil men.

Some of the principal details of the case were related before the National Petroleum Marketers' Association in regular spring convention at the Congress Hotel here by Charles M. Sutherland, secretary of the Nebraska Independent Oil Men's Association. Mr. Sutherland related the case and reported on its status as follows:

"We have an interesting case just developing in Nebraska again. Down in the city of Auburn there was a certain plumber who failed at the plumbing business, so he thought he would go into the gasoline business. Over in Iowa there were some bright spirits who started a scheme that they thought would work in Nebraska. This scheme was taking memberships at $15 a piece, and then entering into an agreement that they would sell gasoline to members at 2 cents above the laid down price in Auburn.

"The thing went along for about six months, and on one eventful day this said ex-plumber made a mistake and made out a ticket billing the gasoline at 5¾ cents below the Standard's price in Auburn. So one month ago the Standard Oil Co. cut the price at Auburn 5¾ cents to meet the competition.

"This price did not go out into the country, but they built a 'Chinese Wall' around Auburn and said the prevailing tank wagon price there was 13½ cents. The filling station price was 15½ cents but outside, right on the outskirts, it was 5¾ cents more, tank wagon price.

Just before I left for this convention, our celebrated attorney general, Spillman, went into the district court and secured a temporary injunction enjoining the Standard Oil Co. from making this low price in Auburn as discriminating against the rest of Omaha county. This is going to be argued on April 19. No doubt the members of this association will be interested to know how the Nebraska case comes out.

Municipal Oil Station Under Fire Again

Staff Special

CHICAGO, April 12.—The Supreme Court of Nebraska recently granted a re-hearing in the case of the Standard Oil Co. of Nebraska against the city of Lincoln wherein the oil company seeks a permanent injunction against the municipality from operating its municipal gasoline station.

This municipal station has been running something more than a year. It is operated with city funds by city employees on a cost plus "a reasonable overhead" basis. The Independents attacked it unsuccessfully in Federal Court last summer and about two months ago the Supreme Court of the state granted it a clean bill of health after hearing the testimony and pleadings of the Standard Oil Co.

Granting by the court of a new trial means simply that the oil industry in Nebraska has one more running chance to rid itself of the pest of government competition, having often tried before and succeeded in every case except this city filling station in Lincoln which is protected by an amendment to the city charter written in upon authority of popular vote.

A brief history of the station's operation appeared on page 84 of the March 24th issue of National Petroleum News. It is not the station started by Charlie Bryan when he was running for vice president of the United States. That was a state station which was ended by state law. But it inspired the "Muny" station.

To Install More Storage

CATO, N. Y.—The Fay C. Adams Oil Co., Inc., with main offices here, recently took over the distribution of Quaker State oils for eight counties of central New York.

The company plans to install bulk storage tanks in order to supply its six service stations and 250 dealers according to Fay C. Adams, president. The latter will be served by tank trucks.

For several years the company has been distributing products under its trade name Penn-O-Lane. Bulk stations are maintained at Cato, Fulton and Liverpool, N. Y., equipped with over 120,000 gallons storage for gasoline and 50,000 gallons for kerosene.

Be Slow to Enter Court Against Q. D. A. Omaha Attorney Advises

By Ward K. Halbert
N. P. N. Staff Writer

CHICAGO, April 8

TUESDAY night at the National Petroleum Marketers' Association convention in Chicago was given over to a discussion of the legal aspects of the quantity discount method of marketing gasoline. Most of the time was used by William Ritchie Jr., an attorney of Omaha, Neb., who has been in consultation recently with the Independent jobbers of South Dakota in working out their special problems in regard to the Q. D. A.

Mr. Ritchie talked for more than two hours and his whole address can not be reproduced but the salient parts of it are presented herewith, as well as some of the remarks of oil men in the meeting who spoke after he did. C. S. Rosenthal, Apex Motor Fuel Co., Chicago; C. M. Sutherland, secretary of the Nebraska Independent Oil Men's Association, and T. J. O'Day of Fort Wayne, Ind., took active part in the discussion.

In many respects the evening session was the most interesting meeting of the convention. Mr. Ritchie said in substance "Be slow to enter the courts in a Q. D. A. controversy." Mr. Rosenthal asserted that in his opinion the Q. D. A. was nothing but the instrument of major organizations to eliminate their weaker competition and contended that legal redress and protection was the most advisable course to pursue. Mr. Ritchie answered numerous questions which amounted to offering his professional opinion upon specific cases. His remarks are as follows:

The Attorney's Opinion

"Under the statutes and rulings of the court there are two things that you have got to look to. One is that line of decisions and those statutes saying that certain persons who conspire together to destroy their competitors are guilty of unfair competition and shall be penalized in a certain manner. Then you have another set of statutes and decisions which say there are certain lines of trade practice which are unfair and which the Federal Trade Commission will order you or your competitor to desist from or that the courts will enjoin the other party from pursuing. So we have what are called unfair trade practices, and we have what are called conspiracies in restraint of trade.

"It does not appear from evidence I have seen that there is any grouping of oil companies or individuals which could justify any one in saying that there was a conspiracy on the part of two or more corporations, or individuals in the oil industry to restrain trade. So it seems to me the whole thing resolves itself into the question of whether or not it is unfair competition and whether or not by that unfair competition there is a discrimination against competitors.

"There is one line of unfair trade where the practice is dishonest or fraudulent. Sometimes in the eyes of the law a thing may be eminently unfair when in the mind of the party who is committing the act, there is no fraud intended.

Public Sentiment Important

"Public sentiment is the basis of everything, if you wish to approach a legal proposition, that has such far reaching effects as the oil industry and an adjustment of prices is concerned. You have got to get the public approval and you have got to understand where the public stands on the question.

"You have to approach your problem from the question of how the public will judge you in the case. I am not by that casting any reflection on the courts or juries, I have great respect for them. I do know that decisions of 30 years ago wouldn't be rendered for one minute by the courts of today and that the courts of today are rendering opinions that 30 years from now will appear archaic. The courts will follow the public mind in their decisions. It is always the case.

"As I have stated, this Q. D. A. has nothing to do with character and integrity, it is purely an economc problem. Therefore, when we discuss the Q. D. A. from the standpoint of unfair trade practices and what should best be done, we must look at it from the economic standpoint.

May Win, Yet Lose

"You have heard many times the proposition that a man may win and yet lose, and that is very true in many cases. You might devote your time, your attention, your thought, your money, to fighting some particular element of unfair trade practice which you considered ruinous and by the time that you are through, not only have you spent more money than you would have lost if you had stood silent, but you might also lose your best customers in doing it.

"Come back to another side of the case. Let's go to the county attorney. There are times when I think you should go to him. Then, again, there are times when you should not go to him. Before you go to the attorney general, before you go to the state's attorney, you have other practical considerations to think over.

"If we go to the attorney general, if we go to the state's attorney, if we get accustomed to running to the government as chickens do to a hen, won't the time come when the government, like the hen, will call the chickens under the wing and insist upon their coming in under it? Won't we produce the tools with which to dig our own graves? Won't we induce the people, through the self advertising of the politicians who own the political offices, to take over these business enterprises of ours instead of protecting us? Won't we get the government into business? Do any of us want the government in business?

"When you go to the government, don't expect the federal or state authorities to be able to devote their time exclusively to your business. Don't expect them to be able to give it the attention and the time and the prompt relief to your needs your own personal counsel might give, because they have many requests and many duties and short terms of office.

"I have seen many a case started in state courts which was begun by a politician of one complexion and fizzled out under a politician of another, and where the people who helped to furnish the sinews of war regretted that they ever had their names connected with the enterprise, and were left in humiliation before their fellow-men and the members of their trade and really suffered an economic loss.

Q. D. A. Fair in Principle

"Now let us go back again to the question of what might be the outcome of litigation either brought by yourselves or by the government on some of these Q. D. A. contracts. In the first place, my conception of the Q. D. A. contract, as represented to be the intention, is that it is merely to permit those corporations or those individuals who use large quantities of gasoline to have a special concession because of that fact, and because of the fact that you haven't such a great overhead in carrying the account, a concession commensurate with the amount which they receive.

"In my opinion, such a concession and such an arrangement and such a contract is absolutely valid, is not unfair trade practice, could never be proved to be unfair trade practice; is not discrimination and never could be called discrim-

ination, unless one man over in this part of the community is allowed this contract, and another man with the same credit and the same ability to use oil is refused it. That is discriminaton.

"Then, comes the question of how it is going to be applied. When you put an instrument like that into the hands of a salesman who wants to make a showing, many times he will fall to the temptation of building up a fictitious group, corporation, or whatever you may call it, with whom he may deal and thereby increase his output, and that appears to have been done in some instances.

"From the information which was given to me relating to South Dakota, it seems that it is quite general in certain sections of that state, and it seems to be a practice up there of certain companies, to deal with the Farm Bureau, which is composed of a number of members who may come in and buy, each of them regardless of the amount which the individual uses. But from the discussion which was heard from the floor, I can't see that such a practice was general anywhere else.

"If such a situation as exists in numerous parts of South Dakota had existed generally through certain sections of the country where certain companies did business, and was generally practiced by those companies, I would say that those companies were intentionally doing this everywhere. I am inclined to believe that what has been done in South Dakota was intentional, from the evidence and I believe a jury and a judge could be convinced of that fact. But I believe the South Dakota situation to be a little more drastic than any place else.

What is Unfair?

"Let me come back again to what constitutes unfair trade practice. We are trying this case now before the court. Merely underselling a competitor clearly does not constitute unfair trade practice, but underselling at a loss indicates that your intention was, just on the face of it, to try to crowd out the competitor and break down his business. That is unfair.

"Remembering that the burden of proof is on the man who seeks to prove the unfair trade practice, you must know that you must have a pretty good set of reasons why the other man's excuses are not any good and then you must have a fair public sentiment in your favor. You must plead your case, when you come to present your case before the public, when you file your pleadings which the newspapers will copy, in such a manner that your side of the case will appeal to the public as the fairer side.

"Then the question comes up; if you get a decision, what will the result be? If you get the state to bring action and the state succeeds, of course, you will have relief personally. It may happen, though, that you may be dragged into the thing as the person who complained when the public wrath turned upon you. You have to consider that. So you have to look at those angles before you start.

Bryan Again

"Another thing that you must look to is what will be the result if the state officers begin to feel their oats. Out in Nebraska we had a governor a few years ago who felt his oats and always will feel his oats. He is an advocate of the sale, not of light wines and beers but gasoline. He is coming back for re-election. Just give him a chance and he will take it. Run to the state for assistance and he will be glad to welcome you in and then take you in.

"In my opinion, unless conditions change in South Dakota soon, there is ground for litigation there. There is ground for asking the state and for using your own energy, if you can't find any other way to get relief. Why? Because in the territory which is served by those great companies which control the price from refiner to jobber and which naturally dictate the prices in South Dakota, the tank wagon prices of those large companies are lower throughout the state of South Dakota than in any other section of that territory.

"Discrimination is not allowed in South Dakota in this manner against competitors. Let us state the law briefly. If a company owns a chain of gasoline stations, they can not undersell in one community except to take into consideration the freight, the prices at which they sell in other communities. They can not underprice unless those prices are necessary in order to meet competition.

"It appears, from affidavits which have been presented to me, that fictitious competition has been created in community after community in the state by small groups of larger companies so that they may thereby reduce the price and force out some Independent company which was not guilty of price cutting. The situation appears to be a general situation throughout the state from the evidence that appears before me.

Contracts Seem Unjustifiable

"It also appears, as I say, that these quantity discount contracts are unjustifiable. A condition like that, if persisted in, requires action and demands action, because if you stand by idly wondering what the economic result will be, you won't be there when the tale is told.

"So far as I have been able to analyze, that seems to be the only place. What about that? That would be an easy way to destroy the Independent oil people in the country if a state here and a state there, widely isolated, were just played on and broken up, jumping then into another state, always pleading some political situation or something else. A situation of that kind demands action. It demands the united action of all the Independents who are interested in maintaining their standing in the industry unless that condition is changed, because what may be done in South Dakota may be repeated next year in Nebraska or in Iowa or some place else.

"I am not saying that I am advising tonight action in South Dakota. I am advising, however, that the situation in South Dakota deserves the attention of all the independent oil men in the country. You should focus your attention on that state and see what is being done there, and if that condition persists, the Independent oil men should see that a thorough investigation is made there so that if prosecutions or suits are justified, those persons who start in on that litigation will be thoroughly financed, and thoroughly backed by the moral support of every man who might be put in a similar fix if this thing is to be ruined state by state or county by county.

What Can Association Do?

"What may be done for the general organization? I can see, so far as I have analyzed the situation from the evidence presented to me, nothing so far as legal action is concerned that would be of any economic advantage to a single Independent engaged in the industry other than the State of South Dakota, as I have mentioned. I can't see anything that would justify indulging in a tremendous expense of litigation and in a hullabaloo, nor do I see anything which would justify going to the federal or state authorities for relief at this time."

C. S. Rosenthal, Apex Motor Fuel Co., Chicago, rose to say: "I don't think that there is any discrimination in the Q. D. A. I think it is elimination. I would like to have the kind of a lawyer that Mr. Ritchie is. He has given good advice. Keep out of a lawsuit. But Mr. Ritchie has been handling oil cases and I understand he has been in touch with these situations. He will understand that the Standard Oil Co. sets the price at which we sell our goods. He understands that many of us are buying our product on the Standard Oil Co. tank wagon price. What is the result?

"The refiner we buy from compels us to contract on the price that the Standdard Oil Co. fixes and after they have got us signed up on these contracts, the Standard Oil Co. goes out with a Q. D. A. That breaks the price 2 cents a gallon. I will ask any fellow in this room if the refiner came along and helped you out on that proposition.

"The fabric that this thing is built upon is to ruin you, to break every one of you, and we are sitting around here like a bunch of dough-heads and letting them do it, and, as Mr. Ritchie said, we won't know it until we are out working for them.

"Do you mean to say that a Federal Trade Commission (put up to protect little industries such as we are) is going to sit by and let these fellows get away with that stuff if it is put up to them right? I don't believe it. If it is, what is the use of havng a Federal Trade Commission? What is the use of having courts of justice?

"The foundation of all industry in this country is the small merchant. If they are going to allow a great big organiza-

tion like that to drive us out of business, what is the use of having a Federal Trade Commission, what is the use of having anything? This Q. D. A. is absolutely and positively elimination for every independent jobber.

Find a Way to Stop It

"It is all right to keep out of a lawsuit, but get this kind of a lawyer and show him the proposition step by step. I am sure he can see you are going to be eliminated by it and I am sure he can find some way to stop that sort of thing.

"This Standard Oil Co. that was disintegrated some years ago, or rather was cut up into parcels, is going right out and doing the same thing over again. I have protected the Standard Oil Co. on the floor of this meeting lots of times because I thought they were good clean shooters, and they are good clean shooters if you let them alone, but don't take any customers away from them; they don't like that. What are you going to do; let them eliminate you?

"We have got to do something to stop this thing. We have got to take them into the courts, get an injunction, and then hope that we will be able to keep it after we have got it. But do something! Get an injunction to stop them from putting this Q. D. A. in effect, or if it is in effect to stop them from operating under it. Let's do something and do it with the hope that we will be able to make it stick.

"The Packers' Institute consists of all the meat packers of the country. We had a little account in Chicago that bought 600 gallons a month. That entitled them to nothing at all. They told us they were going to quit buying from us. The Packers' Institute consists of all the meat packers and this little concern that was a small one could still belong to the meat packers. They were able with this connection to buy at 2 cents a gallon off because the big fellow uses a lot of it. That is no violation of the law or the federal trade practices.

Mr. Ritchie here replied: "My dear sir, you have walked right into something I know something about. That is the Institute of American Meat Packers. It is an association; it is not a corporation. To my mind a contract with the Institute of American Meat Packers is as wrong in principle and as improper under the Q. D. A. contract as a contract with the Farm Bureau in Spottswood, South Dakota."

C. M. Sutherland, secretary of Nebraska Independent Oil Men's Association, Lincoln, Neb., here proposed the question. "Do you think one ticket of a cut price is an evidence of a market? Do you think that can be made to stick?"

Mr. Ritchie replied: "No sir, I do not. That is where they have been getting away with it. The market is not fixed by one sale. It is fixed by the average sales and the general trade conditions in that community. There is no doubt about that."

T. J. O'Day, Ft. Wayne, Ind. said: "Mr. Rosenthal has just called your attention to the fact that the average jobber's contract as he secured it from the refinery is based upon a clause that we receive so much below the Standard Oil of Indiana as acknowledged standing wagon market. A recent development in our territory has an important bearing upon that topic, and it might be a real one for a great many jobbers if the decision as rendered by the court in Indiana is upheld by the higher courts.

"A short time ago Bill Abshire of the Abshire Oil Co. came to my office and asked if I thought the Q. D. A. was part of the tank wagon market. I told him I thought it was not and he asked me if I would testify to that effect before the court. It seems that he had loaned $500 to build his building and at the same time stipulated in his contract the same thing that he had in his contract from his refiner, that that man would have to buy his gasoline from Mr. Abshire at the prevailing Standard Oil Co. of Indiana market. That contract was written in May. The Standard came out with this Q. D. A. in July.

"We were attempting to separate the Q. D. A. from the tank wagon market, but the juge in rendering his decision said that the Q. D. A. was part of the tank wagon market. He stated that his court was a court of equity, that when this contract was written by Mr. Abshire, it was his purpose to put this filling station owner in the position to compete with other filling stations; therefore he said he felt that if the Q. D. A. was known at that time, Mr. Abshire would have given this filling station owner the Q. D. A., and Mr. Abshire got a temporary injunction and the court dissolved the temporary injunction. Mr. Abshire was asking for a permanent injunction.

"I took the matter up with Mr. Nicholas, and Mr. Abshire has now filed an appeal bond waiting for some advice on this subject. Do you think it would be worth Mr. Abshire's time to appeal this to the higher courts?"

Mr. Ritchie replied: "Your court did just what I said as a general proposition I would do, that is consider the purpose and object of the contract in the beginning which put him on an equality with this competitor, all competitors, and that being the object of the contract, and there having been no Q. D. A. at that time, and the Q. D. A. being clearly a deviation from or modification of the tank wagon market price, I would say that your judge was right and would be upheld in your higher court."

N. P. M. A. Convention Honors A. H. Caward

Staff Special

CHICAGO, April 8.—In honor of the late A. H. Caward, founder and active head of the Hawkeye Oil Co., and other well known business firms in Waterloo, Ia., all the assembled members of the National Petroleum Marketers' Association stood with bowed heads in silence for one minute on Thursday afternoon. After a few remarks in preface by L. V. Nicholas, president of the association and presiding over the Chicago convention, L. F. Kuehnle was introduced to read a resolution.

Mr. Kuehnle, head of the Leader Oil Co., of Dubuque, proposed the tribute of silence which was indeed impressive.

Mr. Nicholas' remarks about Mr. Caward were in part as follows:

"A. H. Caward of Waterloo, Iowa, one of the old stalwarts of this organization, the original president of this association, one of the original members of the advertising campaign, one of the oldest and best known and most successful operators in the Independent branch of the industry, has passed away since our last convention. He was a director of years' standing in this association. He was one of the finest men I personally ever knew, and I know everybody here who knew him feels pretty much the same way about it.

Mr. Kuehnle's resolution, unanimously

"WHEREAS, The Supreme Ruler has deemed it wise to call from his earthly labors our friend and associate, A. H. Caward; and,

"WHEREAS, Our friend was from its inception a conspicuous member of this association, loyal to and earnest and active in the cause for which it labored, it has seemed to us fitting indeed that we should in this way express our profound sorrow at his passing and our deep appreciation of the fine record he left behind him. Doc Caward achieved success and deserved it. He accepted his share of life's burdens willingly and carried them gladly. He was a good citizen, than which we can pay his memory no higher compliment. The poor and needy found in him a friend, and his passing will bring a pang of regret to many an unfortunate man whom he had cheered with his kindly sympathy and helped with his liberal hand over life's rough places. 'None knew him but to love him nor named him but to praise'. The world is a better place for his having lived in it, and therein he fulfilled life's greatest reason for being here.

"It may well be said of him in the words of the poet, 'His life was gentle and the elements so mixed in him that nature might stand up and say to all the world, 'This was a man.'

"NOW BE IT RESOLVED, that a copy of this resolution be sent to the family of our friend and that it be spread on the minutes of this association as a lasting testimony to his work."

Association Dues Will Be Assessed On Graduated Scale

By Ward K. Halbert
N. P. N. Staff Writer

Staff Special

CHICAGO, April 10

METHODS of collecting dues in National Petroleum Marketers' Association are to be changed. In the future dues will be assessed on a graduated scale. The change in the manner of assessment will not represent an increase in dues to the majority. There will, however, be no reduction. At the present time all members are paying a flat $25 a year into the association as dues, regardless of the member's size and volume of business. Probably on or about May 1 some of the larger member companies will be paying as much as $100 a year.

The exact schedule will not be announced for some time. The association officials have not worked out what they consider an equitable scale of assessments. In fact they have just begun to consider the details. But the graduated scale plan has been approved by the board of directors. It was voted by the membership on Thursday afternoon, March 8, the last day of the spring Industrial conference of N. P. M. A. in the Congress Hotel, Chicago, following a comprehensive exhibit of the association's varied activities.

Just following the discussion regarding the continuance and expansion of the engineering department, L. A. Miller of Aero Oil Co., Cheyenne, Wyo., made the suggestion that the association's dues be raised to cover the expense of its activities with a reasonable margin of safety. Several remarks were made about the matter from the floor but it was not what could rightly be called a discussion for all the opinions offered were in favor of advanced dues and there were none against it. Toward the last of the meeting the increased assessment was voted unanimously.

The membership did not indicate how much of an advance was wanted, only recommended sufficient increase in dues to carry along present activities which they approved. On Friday, April 9, the board of directors met in the association's offices at 624 South Michigan avenue and evolved the graduated scale plan, leaving it up to a smaller committee to work out the details of the plan more leisurely. It is significant that the membership voted an increase of dues upon itself, unanimously, and that the board devised a plan taking the bulk of the additional revenue from the bigger companies holding membership—a class in whic hmost directors belong.

L. V. Nicholas, president of the organization, stated on Saturday that the details of the proposed plan would not be available much before May 1. However, he hinted that the maximum membership assessment would be $100 and member companies paying that much would have to have a minimum overturn in the neighborhood of 500,000 gallons a year.

I. O. M. A. Not Affected

It is impressed for the benefit of oil men who are not familiar with the workings of the association that the change in collecting dues is specifically applicable to N. P. M. A. membership. There is no reference to charges incidental to participation in the national, mutual advertising campaign, the use of the Spread, Red Eagle emblem and the selling of Red Hat gasoline. Those activities are handled separately by the participating group, the Independent Oil Men of America. The I. O. M. A. is a subsidiary of N. P. M. A., and a part of the parent organization but is governed by a board of three trustees. Its finances are handled entirely apart from those of the association.

Thursday, the last of the three day convention, was given over to an exhibit of the association's activities. First, J. L. Murray addressed the meeting. Mr. Murray is an oil man and he spoke of most of the association's departments and showed clearly their application to any oil jobber's business. He was recently an official of the Corn Belt Oil Co. of Bloomington, Ill. He is a director of N. P. M. A., also a trustee of I. O. M. A., and now for a short while an employee of the association. He is head of what is called the Department of Markets. It is he who has to do with all questions of laison coming under the association's authority, and effects contacts between the organization and actual business.

Mr. Murray introduced Frank J. Silsbee, assistant to the president. His title fits his job and describes it. Mr. Silsbee does a great deal of the work that L. V. Nicholas would do if he could be two places at once. He is a convincing talker and for that reason he has been appearing considerably of late at meetings of oil men over the country. Mr. Silsbee covers state and regional meetings of jobbers especially, talking to them as a group or separately about tne N. P. M. A. program or about the I. O. M. A. advertising activities.

Raymond Shaw, generally proclaimed the busiest man in the association's organization, was third on the Thursday program. He is the head of the advertising work of the Independent Oil Men of America. Besides keeping contact with the advertising agency that handles the publicity in Saturday Evening Post and a number of other national publications, Mr. Shaw has oversight of the organization's out-of-door poster campaign. He works out advertising plans for members who want to do some special thing in their own home towns.

It is Mr. Shaw who devises lighting methods in the Red Hat campaign. He approves globes and station signs. He plans openings for new members. He writes stories for them for their home town papers. He helps them to make exhibits of their wares. In short Ray Shaw's duties are many and varied, but he is the advertising man and the Red Hat man and there is always a line waiting outside of his door at 624 South Michigan. On this occasion he made the kind of a speech he always makes. He hits his assembly through eye and ear at the same time; shows them screen pictures and talks to them all at once.

The I.O.M.A. projector lecture has been shown at several jobbers' conventions in various states before but never in so complete a form as Mr. Shaw presented it on this occasion. Oil men who did not attend this meeting will probably have a chance to hear Mr. Shaw at a state meeting some time in the future.

Collective Buying Department

Weston Atwood, head of the N. P. M. A. collective buying department occupied the platform of the convention for a few minutes on Thursday. His discussion was to the point. He related that the Independent jobber needs the Independent refiner and urged the oil men, regardless of their regular sources of supply to place a substantial share of business through the collective buying department to be placed with refiners who do not operate stations and are not potential competitors to their customers.

It is possible, Mr. Atwood pointed out, that the department may be able to get for the members an advantageous price on the material it handles, just as soon as the department is authorized by the membership to buy enough gasoline to get a quantity price from its sources of supply. He also emphasized the fact that orders placed through his depart-

ment, by being placed direct to a refiner, were not heralded and magnified to the end that prices advance by reason of a fictitious conception of the number of inquiries in the open market.

A vast amount of enthusiasm was manifested by the oil men at the meeting in regard to the I.O.M.A. program. At the close of Mr. Shaw's lecture, R. D. Seely, Mason City Oil & Grease Co., Mason City, Ia., took the stand and talked for several minutes about the success that had attended the adoption of the Spread Red Eagle in his company's advertising. At the close of his remarks he was able to call the whole audience to their feet and make them join him in giving three cheers to the Spread Red Eagle.

Stay Out, Lose Money

J. Shlifer of the Intercity Oil Co., Philadelphia, followed Mr. Seely, called to his feet by Mr. Murray to tell of the manner in which the sale of Red Hat gasoline had increased his volume of business in the Quaker City. "You are losing money" he proclaimed, "by staying out of the campaign to wait and see how it comes out. It is coming out alright and the sooner you get in it the more you will get out of it."

"The added morale that we injected into our sales organization when we told them that we were going to join the national movement and would be allowed to display the Spread Red Eagle and connect up with the national advertising more than compensates us for the dues we put into the thing each month," said William F. Burke, Kentucky Consumers Oil Co., Louisville.

Among the last to testify as to the benefits of the advertising campaign was Karl Buck, Tri-Star Oil Co., Calmar, Ia. The story he told has been related previously in National Petroleum News and does not need to be repeated here. But he recounted the incidents of the dinner which the Tri-Star gave to its employees and customers on the occasion that Red Hat and the Spread Red Eagle were adopted. He had invited Ray Shaw from national headquarters and paid his expenses to have him address the group. Here is what he said about the national advertising campaign:

"We are just a little company but our men are just as loyal and just as proud of that Saturday Evening Post copy as anybody could be when it comes to them once a month. They carry it on their tank wagons, and show it to the trade. If you think the S.E.P. advertising is not being noticed you are kidding yourselves."

More interest was taken in this convention than is the custom at meetings of national organizations. The registration, according to the last report from Eva Arnstein, secretary of the association, was that it was nearer 700 than 600 and there was a substantial percentage of jobbers. The exact classification will be made later.

Mr. Nicholas, on the last day of the meeting, called attention to the fact that the hall filled for the program in the afternoon just as quickly as on the second day, although all matters of business had been disposed of in the forenoon. Interest never died down until the very moment of adjournment which took place Thursday afternoon after the president and some of the members had exchanged a few public remarks about the prospects in the spring market.

Bolene-Milwaukee Price Dispute Ventilated At Meeting

By Ward K. Halbert
N. P. N. Staff Writer

CHICAGO, April 8

PROBABLY for the first time in the history of oil associations there developed in Chicago today a public airing of a private controversy. It was done by mutual consent, both parties desiring to present their respective sides of the case before the National Petroleum Marketers' Association in open session. The ruction was between two or three Independent jobbers in Milwaukee and the Bolene Refining Co. of Enid, Okla.

V. E. Bolene, head of the Bolene Refining Co. was present. So were J. M. McLaughlin and Henry J. Stolz of Bartles-Maguire Oil Co., who were most active against him. W. A. McMillan of Lindsay-McMillan Oil Co., was not present but was represented by letter and several affidavits. Several other Milwaukee jobbers sat by, very much interested.

Bolene Refining Co., about a year and a half ago, built bulk and filling stations in Milwaukee and started operating tank trucks there serving the garage trade. More recently Bolene began selling high gravity gasoline in Milwaukee at the posted price of Red Crown or in other words, for the same price at which the other Milwaukee distributors sell U. S. Motor gasoline. There is no dispute on that point.

The controversy is about the fairness of it. The Milwaukee men say it is not right and Mr. Bolene can't see where he does not have the right to do as he pleases about it.

The Jobbers' Side

In Wisconsin for years, and especially in Milwaukee, the Independent jobbers have sold a great deal of high test gasoline at a premium price. Four Milwaukee Independents sell more than half of the gasoline sold in town and 50 per cent of their volume is high test, premium stuff. So it is the desirable part of the oil business in Milwaukee. They call Mr. Bolene a market disturber because he sells high gravity gasoline at "Navy" prices and advertises it, or allows his re-selling agents to do so.

Mr. Bolene's Side

Mr. Bolene relates that he is operating his Enid refinery on a peculiar crude oil, or combinations of oil. Of course he can cut any product he wants, but running his plant to the best advantage it so happens that he turns out a great deal of 59-61 gasoline. In fact he admits that the gravity on the bulk of the cars shipped out will run 60 and better. It is straight run, water white 60 gravity gasoline, but unfortunately the end point of the material is around that of U. S. Motor.

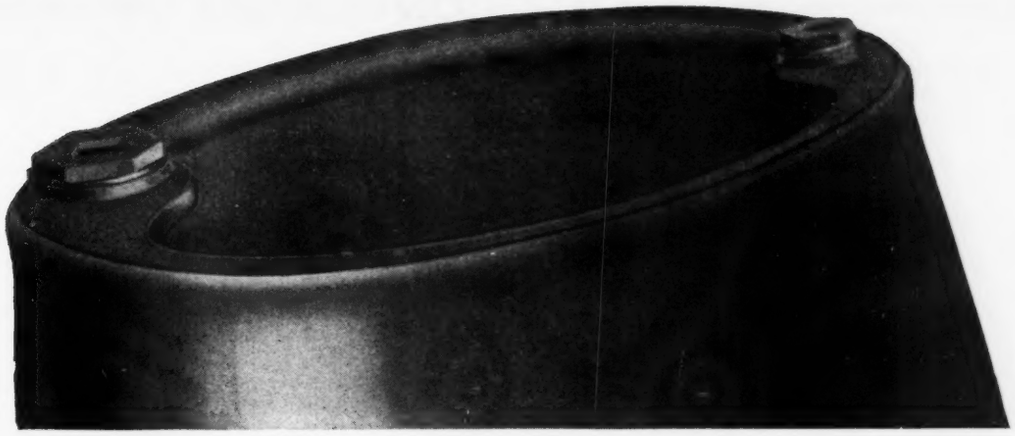
This relatively high end point makes the Bolene gasoline a little hard to market in Milwaukee. It will not sell for the same price as 60-62 400 e. p. material. The high test sold by the Wisconsin jobbers is usually close to 400 end. As a matter of fact Mr. Bolene once had an outlet for his gasoline through a Wisconsin jobber with headquarters in Milwaukee but that contract lapsed and was never renewed.

Overcoming his market difficulties, Mr. Bolene sells his high gravity material in Milwaukee at the posted price of competitive material. And the aggravating feature of the case is the part taken by the state. Under the laws of Wisconsin, oil inspectors have to test gasoline sold at different points and see that the gravity is posted on the pump where the gasoline is sold. In short, the state posts the gravity for the supposed benefit of the buying public. But it does not post the end point. So, in the eyes of the motorists, Bolene gasoline with a high e. p. looks as good as any other 60 gravity material, for only the gravity is posted on the pump.

The Story to Now

Some months back the Milwaukee jobbers complained to the association. The association broadcasted the news that Bolene was selling high test in Milwaukee for the price of Red Crown and asked Bolene customers elsewhere to write the Enid firm a friendly letter of protest. And, a great many of them did it—about 75, according to Mr. Bolene.

Here at this convention the matter was to have been settled in a friendly way, and the general belief is that it was, or will be before long. L. V. Nicholas, president of the N. P. M. A. appointed a group of oil men to sit as a board of judges in a private room and help the Milwaukee men and the re-



Cutting Transportation Costs With Hackney Seamless Strength

Embodied in this Hackney Steel Barrel is the seamless strength that means rigidity—sturdiness—and long life.

The entire body of this barrel is pressed from a single sheet of open hearth steel—then bilged to shape. There is not a seam in it. The downward flange of the head fits into the slightly recessed chime—and dip-brazed in it. This gives a contact area eight times that of the ordinary weld.

This head and body construction makes the barrel so rigid and strong that it can hardly be dented.

There are no seams to rust or spread—and the chance for leakage is virtually eliminated.

The two patented Hackney Raised Openings make this barrel tight. Notice how they stand above the head of the barrel. No water or dirt can get into them—even when the plugs are loose.

For further information on how this Hackney Seamless Steel Barrel cuts down your transportation costs—leakage in transit—and shipping losses, write to—

The Hackney Drum

THE HACKNEY DRUM has the same type raised openings that protect the Seamless Barrel against water and dirt getting in the barrel contents. In addition the Hackney Drum has integral hoops and the chimes are brazed over an area that is eight times that of the ordinary weld. That's real drum strength.

THE HACKNEY REMOVABLE HEAD BARREL is made of one solid sheet of steel—no joints to spring and leak—and the head construction stops leakage in and out.

THE PRESSED STEEL TANK CO.

1141 Continental Bank Bldg., Chicago

1317 Vanderbilt-Concorse Bldg., New York

5719 Greenfield Ave., Milwaukee, Wis.

Hackney

MILWAUKEE

finer to come to an agreement. But instead of going into a private room, Mr. Bolene asked to have the work done in the open.

"I stand accused of being a price cutter before the whole association," said Mr. Bolene. "Why not let this matter be discussed in the presence of the whole organization?"

"When would suit you?" asked Mr. Nicholas.

"Now," said Mr. Bolene.

The committee of judges consisted of five jobbers, all presidents of state jobbers' associations in other states than Wisconsin. They were H. H. Ragle, Federal Petroleum Co., Jackson, Mich.; F. E. Bergfors, Quincy Oil Co., Quincy, Mass.; W. H. Trimble, Western Oil Refining Co., Indianapolis, Ind.; J. M. Wolf, Southern Minnesota Oil Co., Fairmont, Minn., and A. L. Lommel, Bartles-Shepherd Oil Co., Waterloo, Ia., J. L. Murray, head of the department of markets of the N. P. M. A. acted as moderator during the discussion.

After the outstanding points of evidence had been made public before the assembly it was proposed that the group retire with Mr. Murray to a private room and finish their work of making peace. Mr. Ragle reported at a later meeting that an understanding had been reached but not a definite agreement because Mr. Bolene wished to consult his board of directors before committing himself upon a policy. The matter will be concluded by correspondence, he said.

Jobbers Vote to Retain and Expand Engineering Department

By Ward K. Halbert
N. P. N. Staff Writer

Staff Special
CHICAGO, April 9

JOHN ROME BATTLE, head of the Battle Engineering Co., of Philadelphia, occupied the platform at the spring convention of National Petroleum Marketers' Association in the Congress Hotel here almost all afternoon Wednesday, April 7. Mr. Battle did not talk much of the time however. He answered questions and propounded plans for the furtherance of the engineering department of the N. P. M. A. In fact, he acknowledged when he took the stand that he had not come prepared to speak but simply to lead a discussion.

He was introduced by Sam Hunt, head of the engineering department, which has been operating for only about a month. The idea back of the department, as outlined by L. V. Nicholas, president of the association, is that Mr. Hunt shall always be available to members to help them work out their engineering problems, particularly those that have to do with lubrication. Problems often arise in any jobbing business, upon which the procurance of desirable patronage depends, that are problems for a technical engineer. Few jobbers can afford to employ a technical engineer by the year but when they need engineering advice they can well afford to pay for it.

Mr. Nicholas' plan is that any member of the National Petroleum Marketers' Association may use the engineering department like he would use a commercial agency he happened to be a member of. For his regular membership he is entitled to so much service from Mr. Hunt; and service above that amount he will be expected to pay extra for. Mr. Hunt is an engineer of experience in the oil business, and back of him stands Mr. Battle whose professional knowledge and staff are available to A. P. M. A. members through Mr. Hunt's department. Mr. Battle said:

"You have a wonderful thing before you if you will really give support to your engineering department. One of the first things that this department should accomplish is to get out a standardized line of motor oil specifications in cooperation with your lubricating committee. This has been worked up as far as we can go until your committee has passed on the charts and specifications. Following this it seems to me that if you really want an engineering department, we ought to immediately standardize on some form of specification for all kinds of industrial products.

"When we get those specifications we will be in a position to go to the large manufacturers of machinery, such as Ingersoll-Rand, General Motors, General Electric, and fight for you fellows to get these oils approved by them, so if, for instance, an air compressor comes into your territory from Ingersoll-Rand, it won't be tagged up with every other brand but the brand you sell as an approved product. We can do it, and we can get quick action, but we can't do it unless we get the wholehearted cooperation of the membership.

"We also ought to have a definite plan for issuing bulletins. I don't mean bulletins full of sales talk, but bulletins with some real workable facts that you can use to help you develop business. For illustration, Diesel engines, oil engines, turbines, and so forth through the line of what you might call general machinery and equipment.

Proposes Service Bulletins

"I would like to see those bulletins gotten out in a way that would do credit to this association. I would like to see those bulletins printed and illustrated with some line cuts, I would like to see them made so interesting that the salesmen will want to carry them with them. It is going to cost some money. I am not trying to sell this lubricating department to the association, but I do want to impress upon you that you have an opportunity here to really get a fitting branch of your association if you will cooperate and if you are willing to 'put up' for it.

"Certainly no one of you jobbers can sell oil unless your salesmen are equipped with a reasonable amount of sales engineering as applied to oil, because after all oil is used on mechanical equipment almost entirely. I think that some form of a simplified course of instruction should be made available to the salesmen of all the jobber members. That can be done very quickly.

"It would be an easy plan to get out a small booklet like the D. T. E. booklet on turbine oils. It would also be possible to go to some of these stationary engineers' meetings and display

Prize Drawing Held By Pump Co.

CHICAGO, April 9.—The J. G. Doty Pump Co. of St. Louis, Mo., one of the exhibitors at the spring convention of the National Petroleum Marketers Association at the Congress Hotel here on April 6, 7 and 8, held their own little prize drawing. There was no general prize drawing event among the exhibitors generally as there was in the recent autumn convention.

Doty gave away one of their No. 86 filling station light posts, fully equipped. The winner was selected as the holder of a lucky number drawn from a "hat." Duplicate numbers had been issued to all jobbers visiting the Doty booth. The man who drew the post was J. O. Bobbs, head of the Regal Oil Co., Piqua, O.

the association material and explain just exactly what can be delivered. There are very few of these American Society of Stationary Engineers meetings where you don't find a Texas Co. booth and Vacuum booth, and that all comes back to them. But you can't do it now with a half dozen different brands and formulas. That is one of the things that would be accomplished.

Labeling Oils by Number

"As for the numbering of the brands, it would be very easy to work out a system of brands that could be hitched on to the individual member's name. For illustration, suppose we took two names, having one stand for a neutral and the other for a treated oil. Then all the oils that fell in that name class would have numbers, the numbers to stand for the viscosity at 100, and the last number, like 305 oil would mean 300 at 100, number 5 color. That would simplify the branding of your goods, the stocking and the formulation. It would be a very simple way to handle this industrial oil business.

"I would like to be a part of the department, I would like to follow the thing through. The present arrangement, as Mr. Nicholas knows, terminates the end of this month. The main reason I came to Chicago was to find out just how sincere you are in carrying this department through to become an effective arm of the association.

"I can cite an experience I had one time. The Merchants & Miners Transportation Co. had a pier right in front of the Standard Oil Co.'s place in Baltimore, and it was quite a factor in holding their business, which was on a mileage basis. We went in there and fooled around a bit and gave them a proposition on a revolution basis.

Getting the Business

"They were going to pay us so much per so many hundred thousand revolutions. It was somewhat out of the line, and we got the business for our client directly under their nose.

"So far as guaranteed contracts go, whether they are mining contracts and will pay on the ton of coal and not pay dead rock and pumpage, or whether it is mileage on a street railway, or anything else, if you fellows carry through on this engineering department you can bid against Galena or anybody else. There is a darned big factor of safety on every mileage guarantee contract, and the consumer pays for it and pays well. If I had any client buying on a guaranteed basis I would soon take him off because he is not making anything on it.

"The matter of pay could be handled a number of ways. There is going to be a certain amount of routine work for this department to handle and it is going to take a certain amount of time each month. In any arrangement that we would make, with the association, it would be made on a flat rate per month with a maximum amount of time in any one month. If you wanted to use that time, you could have us go to the north pole, it is immaterial to us what you do with the time. For that service, it would seem to me logical that the association would bill the member.

"Certainly he could not have an engineering department of his own at anywhere near the low cost that he could by using the team work of the association, and I don't know but what it might be a good plan, if you fellows are sufficiently confident of each other, where you would have an interesting development of that kind, to pass that information on to some fellow in the next town and let it go out as a bulletin for which perhaps you could make a small charge."

R. N. Mullin, Calumet Oil Co., El Paso, Texas, said:

"It strikes me that it is one of the biggest single pieces of work that this association could undertake. If there is any point on which we are weak it is this matter of industrial lubrication. That is profitable business and we should not kid ourselves that it is not.

"We go out and give a man 4 cents a gallon off of tank wagon and put him up a new filling station and give him some pumps and buy him a suit of clothes and pay his doctor bills to get his filling station business and next week somebody gives him 4 cents a gallon off and we lose it. In this industrial business, if we get a piece of industrial machinery to lubricate, the chances are we have it a minimum of a year and perhaps indefinitely thereafter.

"The sales expense is very low. The oils themselves carry a nice margin of profit. You don't have to go sell a man every time you make a delivery. It is a point where I think most of us are very weak. The big integrated companies have the advantage of this very fine lubrication service."

Stanley W. Rusk, Rusk Oil Co., Philadelphia, Pa., said:

"It seems to me that in this department we have lost track of one thought that can be used with your engineering forces. If the lubricating committee, in working out different oils, would say an oil of this particular body, or of this particular number is suited to lubricate this type of machine, in other words give us a long list of machines to which we could apply one particular oil, we would have a distinct advantage. It seems to be a habit with Vacuum for instance to prescribe as many oils as possible. I have repeatedly licked the Vacuum Co. by prescribing as few oils as possible. You have in that a talking point that is going to put you over many, many times."

Jack Nourse, Nourse Oil Co., Kansas City, Mo., said:

"It seems to be up to us lubricating men to do most of the talking. In the last two weeks I have put four inquiries on lubrication that I wanted in a hurry, up to the engineering department, and received an answer back from Mr. Hunt in one to two days, giving me exactly the information that I wanted or the directions that I needed, and I think that department is functioning already 100 per cent. Gentlemen, you don't really realize what you have got. It is new, we have been working for four years at these meetings to get something on lubrication.

"Now that we have got this department started, if you will realize what it means, it is a gold mine right in your hands. When you get a problem that you have not known how to handle before, shoot that in to the department and you will get an intelligent answer from the high-class lubrication engineers. I have tried it. It has worked. You do the same and it will work for you. You can just double and triple your lubricating business if you will use this department."

H. A. Weeks, Weeks Oil Co., Inc., Auburn, N. Y., said:

"These fellows are talking about how much money they lose in gasoline. I don't think they realize how much money they can make on their lubricating oil. I really believe, for my part, that the lubricating oil end of the business is the big end, because it helps you do your gasoline work. I personally think that we would make an awful big mistake if we didn't go ahead and back up the lubricating end of the association and get the thing through, and get it nationalized. I think it is one of the biggest things we can possibly undertake."

L. A. Miller, Aero Oil Co., Cheyenne, Wyo., said:

"As I get it, the sense of this meeting is to crystallize the sentiment in the association as to whether they are really in earnest about such a department.

"May I, therefore submit this motion for consideration, that the board of directors be authorized by this Association meeting to make a survey of the sources of income of the Association and adjust those sources of income to a point where the engineering department can be maintained and that the same be made a permanent part of this institution."

The motion carried.

WASHINGTON, April 9.—The complaint of the Transcontinental Oil Co. against rates from the southwest to the southeast, physically filed at the Interstate Commerce Commission more than a month ago, has been officially placed on the files. It raises the same question, brought up by the Piedmont Oil Co. of Gastonia, N. C., the relatively small case that created a big row.

LOS ANGELES.—The gasoline requirements of the city of Los Angeles will be supplied by El Camino Oil Co., newly organized jobbing company in this district. This contract will be in effect for three months, beginning April 1.

Garber Falls Off Again While Wewoka Output Still is Climbing

By A. F. Hinton
N. P. N. Staff Writer

TULSA, April 10

OKLAHOMA'S production declined nearly 9500 barrels the past week, as compared with a 27,000-barrel increase during the two preceding weeks. These rapid fluctuations in the state's output have been due to the several big wells at Garber and Wewoka, all in the deep sand, which, in the case of the former, were at their peak last week, and have been dropping rapidly this week. The Wewoka wells have been holding up steadily, especially those of the Amerada Petroleum Corp., and that field increased its daily average while Garber was declining nearly 10,000 barrels.

Oklahoma's estimated daily average of 468,890 barrels is still the highest of the current year except that of last week, and with that single exception, is higher than it has been since the week ending Dec. 12, 1925. With the exception of Wewoka, which averaged 32,780 barrels the past week, the highest figure it has ever attained, all other fields in the state either declined or showed very slight changes.

The big Sinclair well at Garber, No. 27 Hartley, which at the close of last week was making 15,719 barrels as compared with its maximum of 25,867 barrels, has continued to decline during the week just closed, and at last reports made 8744 barrels of oil and 5000 barrels of water in 24 hours. Although the oil production has dropped to slightly more than half of what it was a week ago, it is noteworthy that the water production has not increased greatly, going from 4800 to 5000 barrels in that period.

The seven deep sand wells in the Wewoka field were producing at the rate of 26,125 barrels daily at last reports, of which the two wells of the Amerada Petroleum Corp. account for 12,320 barrels. This is divided between the company's No. 1 Harjo, which is making 6378 barrels and its No. 3, which is making 5942 barrels daily. The others in this group of remarkably large wells include the Homaokla-New England No. 2 Davis, which is making 4535 barrels, the W. R. Ramsey No. 4 Amos, 3010 barrels, The Magnolia Petroleum Co. No. 1 Harjo (discovery well in the deep sand) 2995 barrels with about three per cent water, the Magnolia's No. 3 Frantz, 2784 barrels, and its No. 5 Frantz, 485 barrels.

The seventh well in this group was added during the week, it being the Magnolia Petroleum Co. No. 5 Frantz, in the SEc SW SW of 32-8-8. This well got the Hunton lime at 3960 feet and started off flowing at the rate of 35 barrels an hour when drilled three feet into the pay. This early flow did not hold up, however, and the well made 585 barrels the first 24 hours and 485 barrels the second 24 hours without having been drilled deeper.

New Pool Opened

One of the most interesting wells in the Wewoka-Okemah area in the so-called "south end" country is the Gilcrease Oil Co. No. 1 Wind, in the SEc NE NE of 35-11-9, about three miles south of Okemah, and opening up a new pool. This well is now at total depth of 3173 feet, or about two feet in the sand and is producing at the rate of 250 barrels a day, with 10 million cubic feet of gas. The oil tests better than 40 gravity, according to reports. The well is drilling ahead, and may show a much increased production when the sand has been further penetrated.

Completions in North Louisiana and Arkansas, Week Ended April 8

LOUISIANA

Urania—LaSalle Parish

Company	Well	Location	Depth	Yield
J. S. Abercrombie & Co.	M. M. King No. 1	25–10–1E	1504	150
Arizola Pet. Co.	Tannehill No. 2	36–10–1E	1535	100
O. W. Clark, trustee	J. D. Russell No. 2	26–10–1E	1560	100
O. W. Clark, trustee	W. L. Russell No. 2	26–10–1E	1560	35
Cook Drilling Co.	K. S. Russell No. 1	25–10–1E	1540	200
H. L. Hunt	Tullos Heirs No. 5	26–10–1E	1500	75
La. Oil Refining Corp.	Tremont B-9	25–10–1E	1565	25
Huey P. Long et al.	Bass No. 1	25–10–1E	1555	50
McWilliams & Foster	J. D. Russell No. 1	25–10–1E	1535	2500
Nat. Gas & Fuel Corp.	T. Russell No. 4	26–10–1E	1555	150
Nat. Gas & Fuel Corp.	F. Tullos No. 1	26–10–1E	1540	80
Ohio Oil Co.	Urania No. 5	18–10–2E	1515	100
Roberts et al.	Russell No. 2	25–10–1E	1530	150
Dixie Oil Co (Standard of Indiana)	Donovan No. 6	21–22–15	1071	15

Caddo Parish—Caddo District

Gulf Refining Co.	Ferry Lake No. 229	15–20–16	2275	2m. gas

Caddo Parish—Vivian

Double H Oil Co.	Watkins No. 5	27–21–15	1681	40
Dixie Oil Co.	Robertshaw No. 73	11–21–15	1703	20
Lewis Oil Corporation	Vespy No. 6	15–21–15	1595	10
Odell & Lawton	Red Bayou No. 6	15–21–15	1665	15

Bossier Parish—Bellevue

Hanby et al	Larkin No. 2	14–19–11	385	15
La. Oil Ref. Corp.	Bodcaw D-30	15–19–11	385	275

Ouachita Parish

J. E. Jordan	Miller Roberts No. 1	2–18–4E	2208	12m. gas
Ladel et al.	Fee No. 33	36–19–4E	2230	2m. gas
Pioneer Oil Co.	Filhoil No. 1	11–18–4E	2220	3m. gas
J. M. Huber	Fee No. 7	30–19–5E	2225	3m. gas

TEXAS

Waskom—Harrison County

Industrial Gas Co.	C.M.Abney No.2 T.D.Wilson HRS		1945	35m. gas

Panola County

Company	Well	Location	Depth	Yield
Magnolia Pet. Co.	Horton No.1 H.Anderson HRS		1971	s.w.

ARKANSAS

Hempstead County

Grassy Lake Oil Co.	Hempstead County Gun Club No. 1	27–12–27	2276	Dry

El Dorado—East Field (Calion)

Liberty Oil Co.	Davis No. 2	31–16–14	2176	s.w.

Lisbon

Foster et al.	Slaughter No. 1	9–17–16	2100	75
Magnolia Pet. Co.	Daumas No. 1	9–17–16	2098	250
Magnolia	Slaughter No. 1	9–17–16	2115	750
Miles, trustee	Miller No. 1	35–17–16	2935	40
Pure Oil Co.	Dumas No. 1	9–17–16	2105	75
Reynolds & Marr	Moody No. 1	15–17–16	2151	25
Rovenger Oil Corp.	Goodwin No. 4	16–17–16	2125	35

Smackover

C. F. Calcord	Laney No. 5	31–15–15	2605	40
Roxana Pet. Co.	Snyder No. 5	34–15–15	2380	80
Unity Pet. Co.	Umstead No. 4	33–15–15	2005	Dry
Unity Pet. Co.	Umstead No. 8	33–15–15	2395	250
Custer & Nash	Primm No. 1	1–16–16	2540	Dry
Humble O. & R. Co.	Flannigan No. 9	6–16–15	2593	50
E. M. Jones	Murphy No. 9	17–16–15	2685	75
Keen & Woolf	Bradford No. 2	7–16–15	2570	200
La. Oil Ref. Corp.	Hodges No. 5	7–16–15	2804	30m. gas
Marine Oil Co.	Umstead No. 10	5–16–15	2370	125
Moco Oil Co.	Flenniken No. 6	5–16–15	2365	120
Nat. Gas & Fuel Corp.	Murphy A-5	17–16–15	2770	5m. gas
Nat. Gas & Fuel Corp.	Murphy C-3	8–16–15	2640	80 and 6m. gas
Stewart et al.	Murphy No. 1	9–16–15	2665	10m. gas
Sunny Jim Oil Co.	Flenniken No. 7	9–16–15	2450	200
Sun Company	McClannahan No. 2	1–16–16	2585	s.w.

Completions in North and Central Texas, Week Ended April 10

Anderson County

Company	Well Farm	Location Survey	Depth	Initial Prod.
Navarro	1-Greenwood	Cook	T.D.1363	Dry

Archer County

Company	Well Farm	Location Survey	Depth	Initial Prod.
Gulf	1-Abney	SP	1763–1766	9
Young	2-Abney	SP	T.D.1765	20
Brooken-Young	1-Wilson	ATNC	1597–1612	35
Gulf	3-Jackson	Aldridge	1558–1564	40
Burns-Maxson	2-McCrory	Geraldine	1583–1587	10
Chenault et al	2-Hammond	Geraldine	1570–1576	35
Gulf	2-Hutchinson	ATNC	1400–1406	45
Gulf	3-Hutchinson	ATNC	1393–1404	65
Cosden et al	1-Oldham	Hubble	1350–1380	450
Humble	1-Wolfe	SP	1336–1347	125
Primrose et al	7	SP	1333–3170	170
Primrose et al	8	SP	1341–1368	52
Texhoma	12-Oldham	Hubble	1344–1378	170
Texhoma	5-Wolfe	Hubble	1321–1350	248
Texhoma	2-Oldham	SP	1336–1359	75
Atlantic	2-Oldham	Hubble	1051–1057	30
Pandem	12-Cockrell	TEL	1436–1438	35
Pandem	5-Young	TEL	1441–1445	20
Texas	1-Prideaux	Dorsey	645– 657	2
Camp	3-Roching	BBB&C	1162–1168	60
Gulf	1-Prideaux	Dorsey	635– 645	4
Shaw-Rathke	1-Prideaux	Dorsey	630– 652	40
Slint	1-Prideaux	Dorsey	637– 654	6
Ashcroft et al	1-Curry	H&TC	T.D.1802	Dry
Oakes et al	1-Dale	Ward	T.D.1806	Dry
Burns-Maxson	6-Brown	Geraldine	T.D.1770	Dry
Dixie	1-McCrory	ATNC	T.D.1600	Dry
Magnolia	1-McCrory	Wole	T.D.1888	Dry
Texas	1-Turberville	Carson	T.D.1821	Dry
Gulf	1-McCrory	ATNC	T.D.1752	Dry
Harris	1-Dycus	Harris	T.D.1590	Dry
Red Bank	1-Davinder	C&P	T.D.3360	Dry
Camp	1-Bell	CP	T.D.1172	Dry
C. C. & H.	1-Garrett	Conner	T.D. 735	Dry
Magnolia	2-Brom	TEL	T.D.1697	Dry
Magnolia	10-Ickert	17	T.D.1312	Dry
B S & B	1-Ward	TEL	T.D.1004	Dry
Cerf et al	1-Prideaux	Dorsey	T.D. 950	Dry
Hill-Darr	1-Ferguson	SP	1724–1733	20
Tex-Colsol	2-Cooddy	Harris	1170–1178	8
Cosden	3-Oldham	Hubble	1346–1380	160
Texhoma	13-Oldham	Hubble	1347–1375	100
Carter	1-Cowan	Jefferson	1052–1061	60
Gulf	1-Jeske	McCorey	1160–1177	110
Texas	5-Jeske	McCoy	T.S.1150	280
American	7-Portwood	TEL	1397–1404	10
Tidal	1-Griffin	H&TC	T.D.1865	Dry
W. Phillips	1-Albright	H&W	T.D.1855	Dry
Consolidated	1-Reams	Harris	T.D.1613	Dry
Consolidated	1-Reams	Harris	T.D.1613	Dry
Murchinson-Fain	1-Abercrombie	Harris	T.D.1501	Dry
Texhoma	6-Wolfe	Hubble	T.D.1418	Dry
Richardson	1-Megargel	Megargle	T.D.1501	Dry
Gulf	1-Carter	Meade	T.D.1576	Dry
Tex-Unity	1-Kreeger	TEL	T.D.1515	Dry
Golding-Cochran	1-Lausert	BBB&C	T.D.1202	Dry

Baylor County

Company	Well Farm	Location Survey	Depth	Initial Prod.
Magnolia	4-Portwood	Tel	T.D.2200	Dry

Brown County

Company	Well Farm	Location Survey	Depth	Initial Prod.
Rock River	1-Newton	Swain	1485	Dry
Treat	1-Anderson	Derr	T.D.1381	Dry
Humble	3-Dunn	Delgado	1101–1115	275
Barbour	3-Prater	Travis	1310–1326	140
Cohen et al	6-Stone	Miller	1277–1307	125
Cosden	6-Westerman	Mitchell	1282–1297	50
Smith	1-Dunn	Delgado	1115–1134	1500
Herring	1-Prater	Swain	1303–1310	100
Conway	3-Wooldridge	ET RR	1217–1243	40
Gillespie	1-Henson	Prater	1279–1285	150
Gilman McMurray	3-Thompson	Smith	1213–1233	25
States	1-Allen	Delgado	T.D.1240	Dry
Barbour	7-Stone	Miller	T.D.1900	Dry
Barbour	8-Stone	Miller	T.D.1326	Dry
Curry et al	1-Stone	Millican	T.D.1425	Dry
Cox et al	1-Long	Mitchell	T.D.1770	Dry
Cox et al	1-Allgood	Kirkpatrick	T.D.2085	Dry
Barclay et al	4-Dunn	Delgado	1101–1124	500
Humble	4-Dunn	Delgado	1113–1125	432
Humble	1-Allen	Delgado	1000–1107	5
Texas	3-Dunn	Delgado	1115–1129	170
Conway	5-Chambers	Logan	1292–1310	150
Keough	1-Wheeler	Garvin	2730–2755	25
Hill-West	2-Newton	Mitchell	1197–1216	50

Callahan County

Company	Well Farm	Location Survey	Depth	Initial Prod.
Texas	1-Liggett	SP	T.D.2306	Dry

Carson County—Panhandle

Company	Well Farm	Location Survey	Depth	Initial Prod.
American	1-Burnett	L'GN	T.D.3032	160

Coleman County

Company	Well Farm	Location Survey	Depth	Initial Prod.
Gwinnup et al	3-Dibrell	Hicks	1886–1903	400
Gladys Belle	3-Watson	Martinez	T.D.2334	1M
French et al	1-Morris	McNeil	T.D.2751	Dry
Morton	1-Morris	Scannel	T.D.2614	Dry

Cooke County

Company	Well Farm	Location Survey	Depth	Initial Prod.
Holmes	1-Pierce	Luske	T.D.2225	Dry

Clay County

Company	Well Farm	Location Survey	Depth	Initial Prod.
Southern Core	1-Windrey	Ammerman	T.D.1870	Dry
Marlow et al	1-Lynch	Specht	T.D.1646	Dry

Crockett County

Company	Well Farm	Location Survey	Depth	Initial Prod.
Marland	1-Todd	GC&SF	T.D.3201	Dry

Eastland County

Company	Well Farm	Location Survey	Depth	Initial Prod.
Roberts	1-Wood	Robinson	1667–1677	15
Hoffer	1-Hitson	SP	3377–3395	1¼ M
Bateman-Campbell	1-Moates	Howell	3176–3202	10

Haskell County

Company	Well Farm	Location Survey	Depth	Initial Prod.
Gose et al	1-McGregor	Alford	T.D.2502	Dry
Wolfe et al	1-Calvert	Hanchin	T.D.1655	Dry

Jack County

Company	Well Farm	Location Survey	Depth	Initial Prod.
Washington	1-Gay	SP	T.D. 350	Dry

Hunt County

Company	Well Farm	Location Survey	Depth	Initial Prod.
Rycade	1-Robinson	Rush	T.D.2420	Dry

Limestone County

Company	Well Farm	Location Survey	Depth	Initial Prod.
Pure	25-Bond	McNulty	T.D.1360	Dry
Pure	26-Boyd	McNulty	T.D.1389	Dry

Mitchell County

Company	Well Farm	Location Survey	Depth	Initial Prod.
California	5-Lease	TP	2900–3050	90
California	5-Miller	TP	2900–3060	75
California	10-Abrams	TP	2930–3031	57

Montague County

Company	Well Farm	Location Survey	Depth	Initial Prod.
Texas	4-Rowland	Chambliss	1116–1128	122
Pure	5-Maddox	Arnold	945– 956	60
Texhoma et al	2-Rowland	Chambliss	1120–1127	70
Benton-Woods	3-Hynds	Wall	946– 966	125
Benton-Woods	4-Hynds	Wall	958– 970	90
Fleming-Kimball	1-Hynds	Wall	913– 931	85
Gulf	1-Cunningham	Hodge	965– 975	50
Texhoma	1-Conghey	Nichols	T.D.2293	Dry
Wilcox	1-Black	McGaha	T.D.1585	Dry

Parker County

Company	Well Farm	Location Survey	Depth	Initial Prod.
Monroe	1-Davis	TEL	T.D. 630	Dry

Reagan County

Company	Well Farm	Location Survey	Depth	Initial Prod.
Big Lake	60-Univ.	Univ.	2870–2912	1018
Big Lake	61-Univ.	Univ.	2898–2935	1227
Big Lake	62-Univ.	Univ.	2912–2927	519
Texon	1-Univ.	Univ.	2472–2473	20M
Big Lake	56-Univ.	Univ.	3025–3090	743

Reeves County

Company	Well Farm	Location Survey	Depth	Initial Prod.
Deep Rock	1-Tatum	TP	T.D.3892	Dry

Shackelford County

Company	Well Farm	Location Survey	Depth	Initial Prod.
Humble	1-Cook	ET	1344–1347	550
Van Duine et al	1-Gray	BAL	T.D. 640	Dry
Adams	1-Simpson	T.B.	T.D. 780	Dry

Stephens County

Company	Well Farm	Location Survey	Depth	Initial Prod.
States	2-Hawkins	TP 77	3900	Dry
Walker et al	4-1st Natl.	TP	T.D.3320	Dry
States	3-Sikes	TP	3383–3402	6M
Landreth	3-Gratz	TEL	3174–3226	70
Humble	5-Smith	TP	1702–1725	10
Christy	2-Gardenshire	TP	2120–2130	15
Tex-Consol	7	TEL	3916–3919	30,18½M

Throckmorton County

Company	Well Farm	Location Survey	Depth	Initial Prod.
Hoffer et al	1-Parrott	TEL	T.D. 698	Dry
King et al	1-Browll	BBB&C	T.D.1000	Dry
Young et al	1-Reynolds	Comanche	T.D. 490	Dry
Texhoma	3-Reynolds	C. I. R.	T.D.3425	Dry
Tucker et al	1-Graham	Comanche	T.D. 680	Dry

Upton County

Company	Well Farm	Location Survey	Depth	Initial Prod.
Kirby	1-Union	H&TC	T.D.3385	Dry

Wheeler County—Panhandle

Company	Well Farm	Location Survey	Depth	Initial Prod.
Mid-West	1-Company	H&GN	T.D.2985	Dry

Wichita County

Company	Well Farm	Location Survey	Depth	Initial Prod.
Staley et al	3-Hines	H&GN	885– 887	18
Gulf	1-Waggoner	Willis	572– 575	7
Stump et al	1-Dutton	Denton	1804–1814	186
O'Neil	1-Roberts	H&TB	T.D.2176	Dry
Hoosier	2-Hines	H&GN	T.D.1460	Dry
Bridwell et al	1-Waggoner	George	T.D.1857	Dry
Underwood	1-Kemp	K&W	T.D.1902	Dry
Stump et al	2-Dutton	Denton	T.D.1835	Dry
Jeffers	1-Harrell	Denton	T.D.1900	Dry

Wilbarger County

Company	Well Farm	Location Survey	Depth	Initial Prod.
Winnipeg	1-Lloyd	H&C	T.D.2788	Dry
Texas	1-Zipperle	H&TC	T.D.2978	Dry
Humble	1-Waggoner	H&TC	T.D.2680	Dry
Humble	5-Waggoner	H&TC	2401–2409	70
Landreth	7-Waggoner	H&TC	1851–1875	300
Landreth	3-Waggoner	H&TC	1890–1941	150
Roxana	6-Waggoner	H&TC	1919–1939	75
Landreth	1-Waggoner	H&TC	2533–2541	85
Landreth	3-Waggoner	H&TC	1985–1890	130
Landreth	1-Waggoner	H&TC	1862–1890	60
Atlantic	3-Sigler	H&TC	2012–2027	25
Graham	1-George	Poitevant	2222–2227	15
Clark et al	1-Waggoner	H&TC	2354–2378	12
Landreth	2-Waggoner	H&TC	2336–2385	10
Humble	1-Waggoner	H&TC	1911–1920	65
Humble	3-Waggoner	H&TC	1889–1998	35
Landreth	5-Waggoner	H&TC	1914–1920	60
Landreth	2-Waggoner	H&TC	1892–1900	150
Landreth	2-Waggoner	H&TC	1882–1897	75
Milham	2-Waggoner	H&TC	2387–2391	30
Clark et al	1-Waggoner	H&TC	2320–2334	50
Milham	2-Waggoner	H&TC	2399–2400	30
Barclay-Meadows	2-Bond	TEL	T.D.1508	Dry
Clarke et al	1-Waggoner	SP	T.D.2438	Dry

Young County

Company	Well Farm	Location Survey	Depth	Initial Prod.
Gynn-Atlantic	2-Powell	TEL	T.D.1508	Dry
Lang et al	1-Vernon	Poitevant	T.D.1190	Dry
Camp	4-Campbell	TEL	T.D. 914	Dry
Roxana-Roamer	1-Nelley	TEL	T.D.1176	Dry
Gulf	5-Campbell	TEL	T.D.1019	Dry
Key	1-Erchelberger	TEL	T.D.1003	Dry
Hoffer	1-Boyd	TEL	T.D. 904	Dry
Boller-Beavers	1-Teague	TEL	T.D. 990	Dry
Underwood	2-Benson	TEL	858– 881	25
Carter	3-Benson	TEL	913– 928	75
Carter	4-Benson	TEL	908– 925	100
Tidal	1-Benson	TEL	919– 927	33
Bridwell et al	4-Streit	TEL	1281–1286	30
Harris et al	1-Watson	Young	500– 512	5
Carter	5-Benson	TEL	912– 918	15
Bridwell et al	4-Farmer	Anderson	T.D.1063	Dry
Log Cabin	1-Calvin	Rohus	T.D.1003	Dry
Adams et al	1-McClatchey	TEL	T.D.1123	Dry

Completions in Oklahoma and Kansas, Week Ended April 10

OKLAHOMA

Carter County

Company	Well No.	Location	Depth	Initial Production
Carter	2	SWc 22-2-3W	2215–2279	50
Magnolia	3	NWc SW NE 23-2-3W	2585–2611 OWD	135
Magnolia	9	C NW NE SE 23-2-3W	1556–1576	8M
Amerada	16	CSL N½ S½ 28-5-1E	1202–1220	50
Magnolia	2	C NE NW SE 34-1-3W	3168–3180	65

Comanche County

Cardinal	1	C NE NW SW 24-2-10W	1638–1649	35
Magnolia	1	NEc 30-2-9W	2006–2192	34
Howard	1	NWc SW NE 27-2-10W	T.D.2325 OWD	Dry

Creek County

Magnolia	5	NE SE NW 18-18-7E	2427–2435	50
Tidal	5	NWc NE NW 22-17-7	2937–2955	3½M
Wilcox	9	NWc SW NE 2-15-8	3716–3764 OWD	120
Gypsy	17	NEc NW NW 6-18-12	2026–2070	55
Gypsy	18	CEL SW NW 6-18-12	2149–2155	1680
Shaffer	4	NWc NE NE 17-17-11	2530–2550	145
Bartlett	1	NWc SW NW 12-16-11	1655–1700	10
Riverside	1	NWc SW NW 29-16-8	3880	Dry
Tibbens	1	SWc SE 1-14-8	T.D.2450	Dry
Tidal	4	SWc NE NW 19-17-10	2128	Dry
Wilcox	3	SW SE SW 1-16-11	2641	Dry
Chief et al	1	SWc NW SE 7-16-11	T.D.2986	Dry

Garfield County—Garber

Roxana	6	NEc SW SW 18-22-3W	3055–3062	4784
Sinclair	27	C NW NW NW 18-22-3	4216–4240	25,867

Grady County

Magnolia	2	NEc SE SE 23-5-8W	2099–2356	2 & 2M
Noble et al	2	SEc SW SW 24-5-8W	2155–2330	3½M
Nichols	2	C SE SW NW 25-5-8W	T.D.2434	45M
Skelly	2	CNL SW NW SW 35-5-8W	T.D.2350	3M
Magnolia	1	SWc SE 27-3-5W	1504–1510	25
Prairie	3	C E½ SE NE 22-5-8W	2260–2342	40M

Hughes County

Dixie	4	SWc NE SE 18-8-10E	2775–2823	20
McCullough	1	C SW NE NE 27-9-9	T.D.3453	Dry

Jefferson County

Carter	4	CSL NW NE 33-6-5W	1380–1398	400

Kay County—N. Braman

Comar	1	NEc SE 20-29-1W	2349–2380	93
Comar	10	NWc SE NW 21-29-1	2047–2052	56

Kay County—Blackwell

Polling-Denny	3	NEc SE SW 4-27-1W	T.D.2360	30M

Lincoln County—Davenport

Magnolia	1	SWc NE 35-15-5	3406–3421	45
Carter	3	SWc SE SE 6-15-6	4067–4070	48

Lincoln County—Skellyville

Skelly	8	NWc SE NE 2-14-5	3335–3382	120
Amerada	7	SWc NE SW 3-14-5	3430–3454	25
Magnolia	1	NEc NW SW 7-14-5	3479–3492	19
Phillips	1	SEc NE 35-15-5	T.D. 100	Dry

McIntosh County

Haun	1	NEc 4-10-13	T.D.3762	Dry

Muskogee County

Brothers	2	NWc NE 33-15-15	T.D.2204	Dry

Okfuskee County

Champlin	5	C NW SE NW 22-11-11	2581–2590	300
Phillips	1	C SE NW SW 15-10-9	T.D.3247	Dry
Prod. & Ref	8	NEc NW NE 24-11-11	T.D.2812	Dry

Okmulgee County

Okla. Natl	5	SEc NW SE SE 24-16-12	2212–2225	65
Iron Mountain	1	NWc NE NW 3-15-11	2180–2193	50
Morton	6	CNL SW NE 7-12-12	2554–2571	300
Jolly-Ogg	1	SWc NE NE 21-15-14	2268–2271	75
Mechling	3	CWL NE NE 14-14-14	1070–1101	7
Selby	30	C NW NW 35-14-14	1138–1150	16
Cuseck	7	NEc SE NW 29-13-14	1667–1690	35
Nicholson	2	SWc NW SE 13-11-13	1310–1334	1M
Selby	8	CSL SW SE 24-14-13	1335	Dry
Papoose	7	CEL SW SW 11-14-14	T.D.1801	Dry
Wallace	2	CWL SE SW SW 11-14-14	T.D.1803	Dry
Sinclair	17	C NW NE 23-15-14	T.D.1781	Dry
Tidal	4	SEc SW SW 28-15-13	T.D.2785	Dry

Osage County

Kenner	7	SEc NE NE 15-29-10	1050–1094	15
Owen Osage	361	C E½ NW 21-28-10	1835–1886	½M
Texas	6	SWc NE NW NE 29-25-8	2470–2492	50
Lewis	7	SWc NE NW 29-25-8	2485–2509	110
Peters	8	NEc SW NE SE 12-23-8	2095–2156	25
Kewanee	1	NEc SW 4-22-11	1652–1664	20
Phillips	6	SEc 10-21-9	2255–2269	30
Echo	1	NEc SE 29-10-10	2155–2160	23M

Pawnee County

Gypsy	9	SWc NE NW 1-20-7E	2782–2785	10
Mid-Cont	16	NEc SW SW 16-20-7	2620–2637	40
Mid-Cont	17	SEc SW NW 16-20-7	2612–2634	25
Black et al	1	NWc SW NE 6-20-8	2505–2548	25
Selby	5	CEL NE SE 23-20-8	2822–2829	70
Magnolia	2	SEc NE NE 21-20-6	3110–3124 OWD	100
Sun Ray	1	NEc SE 5-20-8	T.D.3040	Dry
McNamara-West	1	SWc NE 21-20-8	T.D.3321	Dry

Payne County—Deep Rock

Amerada	4	NWc SE SE 23-18-3	3740–3767	235
Blauner-Hartley	1	NWc 2-18-6	2892–2917	15

Pontotoc County

Boles-Smith	1	NWc 34-5-6E	1667–1675 OWD	20

Pottawatomie County

Texas	1	SEc SW 3-11-6E	4752	Dry

Seminole County

Jarvis-Holmes	1	C NW NW SW 4-10-6	T.D.4337	Dry
Superior	1	NWc NE NW 15-9-6E	2615–2628	33
Magnolia	1	C SW SE SW 14-8-7	3238–3246	196
Magnolia	1	C NW NE SE 6-7-8	3125–3135	2M

Stephens County

Muse et al	1	NEc SE 4-2-8W	T.D.2614	Dry
Gibbens et al	1	C SW SE SW 2-3-6W	T.D.2005	Dry
Magnolia	5	CSL SE SE 25-1-9W	1963–1980	10

Tulsa County

Pet. Co	1	SWc NE 4-16-13	T.D.2065 OWD	2
S. S. Home	3	SWc SE NE NW 3-19-11	T.D.2411	Dry
Pennock	7	CSL NE SW 17-19-11	T.D.2073 OWD	Dry
Pennock et al	10	CEL NW NW 20-19-11	T.D.2382	Dry
Brennan	1	NEc SW 16-16-14	T.D.1794	Dry

Wagoner County

Talbot et al	1	NW NE SW 10-18-16E	1090–1096	5M
Wheeler et al	1	SEc 20-18-16	793– 800	5
Marr	1	SW NE 29-18-16	777– 792	65
McMahon	5	NWc SE NE 14-17-16	1287–1320	1¼M
Mays	1	SWc NW 15-19-15	1395–1400	20

KANSAS

Butler County

Amerada	2	SWc NW 27-27-7	2688–2737	15
Phillips	4	SWc NE NW 27-27-7	2722–2757	250
Phillips	5	NWc SW SW 27-27-7	2710–2752	400
Federal	4	NWc SW NE NE 33-27-7	2727–2760	30
Lewis	1	NEc NW NE 33-27-7	2694–2738	40
Atlantic et al	1	SWc SE 15-28-7	3090–3093	90
Empire	163	NWc SE NW NW 8-25-5	T.D. 750	Dry
Sanford et al	1	NEc NW 12-26-6	T.D.2789	Dry
Hoyt et al	1	SWc NW 32-26-7	T.D.3090	Dry

Elk County

Empire	1	C NW NW 22-31-9	1488–1493	¾M

Greenwood County

Day et al	1	SEc SW 1-22-10	1796–2036	950
Davis et al	13	SEc SW NE 12-22-10	2044–2127	1000
White Eagle	1	NEc SE NW 12-22-10	2066–2154	80
Empire	9	SEc NW NE 14-22-11	1861–1916	125
Theta	12	CWL SW 3-23-13	1788–1810	30
Mid-Cont	12	CNL NW 22-23-13	1585–1625	75
Mid-Kans	7	NWc SW NW 20-25-9	2323–2391	125
Connell et al	1	SWc SE 1-22-10	2162	Dry
Transcontinental	1	NWc SW NE 3-22-10	T.D.2275	Dry
Pryor-Lockhart	6	NEc SE 13-22-10	T.D.2150	Dry

Drilling Operations in Oklahoma, Kansas and North Texas

	Apr. 10—Week Ending—Apr. 3									
	Loc.	Rigs	Drg.	S.D.	Total	Loc.	Rigs	Drg.	S.D.	Total
OKLAHOMA										
Burbank	10	18	9	1	38	7	15	9	1	32
Other Osage	10	17	50	6	83	8	14	47	5	74
Bristow-Cushing	27	25	174	32	258	30	35	172	30	267
North Oklahoma	13	25	145	76	259	11	29	146	71	257
South Oklahoma	21	34	146	38	239	17	30	152	43	242
Muskogee		14	35	14	63	...	9	39	11	59
Okmulgee-Bristow	6	51	118	35	210	6	49	118	34	207
Tonkawa	1	1	4	2	8	1	1	5	1	8
Wewoka-Cromwell	19	26	111	34	190	20	29	107	30	186
Total Oklahoma	107	211	792	238	1348	100	211	795	226	1432
KANSAS	74	96	236	120	526	75	103	238	112	528
NORTH TEXAS										
Eastland County		3	49	9	61	...	9	40	9	58
Stephens County		14	33	14	61	...	16	38	10	64
Texas Panhandle		81	107	26	214	...	85	87	28	200
Mexia District		...	2	4	6	...	1	3	2	6
E. Texas Wildcats		6	7	15	28	...	7	5	16	28
W. Texas Wildcats		52	239	71	362	...	57	235	74	368
Wichita Falls		80	171	33	284	...	83	193	43	319
Total N. Texas		236	608	172	1016	...	258	603	182	1043
GRAND TOTAL	181	543	1636	530	2890	175	572	1636	520	2903

TULSA.—E. De Golyer, president, and Alfred Jacobsen, vice-president of the Amerada Petroleum Corp., with New York headquarters, are in Tulsa making examinations of the company's Mid-Continent properties.

TULSA.—During the absence in Europe of Sidney Powers, chief geologist of the Amerada Petroleum Corp., who is going to attend the International Geological Congress at Madrid, Miss Dollie Radler will act as chief geologist for the company. Miss Radler, who for some time has been assistant chief, is prominent in Tulsa geological circles and is serving her second term as secretary-treasurer of the Tulsa Geological Society.

HAVOLINE FRANCHISE SUCCESS No. 12

Advertisement of Indian Refining Co., Inc.

Flat-Rate Idea Causes Boost In Adams Service—and Profits

Keen Southern Merchandiser Discovers Motor-n-All as Sales Builder for Havoline, and Snaps it Up—Servicing Ten Cars a Day Proves Money-Making Side Line for Big Mobile Outfit

A FEW people still think that the South—from a business point of view—is slow, easy-going, hopelessly out-of-date. Just how far this idea is from the truth can be discovered at a single swift glance. The particular glance we recommend is in the direction of one of Alabama's best and busiest automobile and service companies—the Adams Motor Company of Mobile.

An organization ever awake to new business possibilities! A model of its kind! And the fact that in the last six months it has taken a tip from one of Indian Refining Company's marketing helps—thereby adding a highly profitable feature to its service station business—is merely one more reason why the Adams Motor Company and the men behind it are well worth knowing.

As Ford and Lincoln dealer for Mobile and vicinity, Adams occupies an imposing building in a busy section of the city. In addition to this structure—one of the largest and best looking in Mobile, by the way—five other stations dot the metropolis. The company directs its line of fire chiefly towards sales and service on Fords, Lincolns and automobile tires and tubes. Oil and gas have figured more or less as incidentals. Yet during 1925 gasoline sales alone totaled 780,000 gallons!

A Real Business Man

Behind this huge organization stands one dominating figure—L. G. Adams, its president—from top to toe a splendid example of the successful southern merchandiser. Under his aggressive leadership an organization of approximately 150 men has welded itself into a single, coordinating unit.

The principal feather in Adams' cap is his business in tire servicing. Maybe he's openly proud of it! But hasn't he a well-earned right to be? For he has worked it up into something almost unique. Operating under the name of the Adams Tire and Service Company, it does a thriving business both in answering road calls and at its six locations in Mobile. Drive up to the principal Adams tire service station, right across the street from the company's main building! There you will see five rows of canopies—enough covered space to service 45 automobiles at once, with room for each car to drive in or out without interfering with any of the others. This is merely the tire department's "General Headquarters." As many as 72,000 road calls were made last year, and they alone resulted in sales of 85,000 inner tubes and 21,000 casings.

Would such an outfit be interested in lubrication? Offhand, the answer would seem to be "Not to any extent—for, at best, oil and grease could only be one of its side lines." But L. G. Adams' line of reasoning went deeper than that!

"With as complete an organization as we have for repairing and tire serving," he figured, "we could easily—and with little expense—develop a highly profitable lubrication business. Just put a little effort behind it and tie it in with our other service—and we can make it real convenience to our customers. And what we'll get out of it will be mostly *extra profit*."

Sensible! Adams has seen to it that this policy has gone through—with a bang. The first step was the Havoline franchise. That meant control of "the Power Oil" in its territory. Then for the second step: Adams snatched the idea from one of the many sales-stimulating suggestions which Indian Refining sends out to its distributors. "Motor-n-All"—flat-rate lubrication service—a highly logical expansion of the policy of service which Adams had been developing!

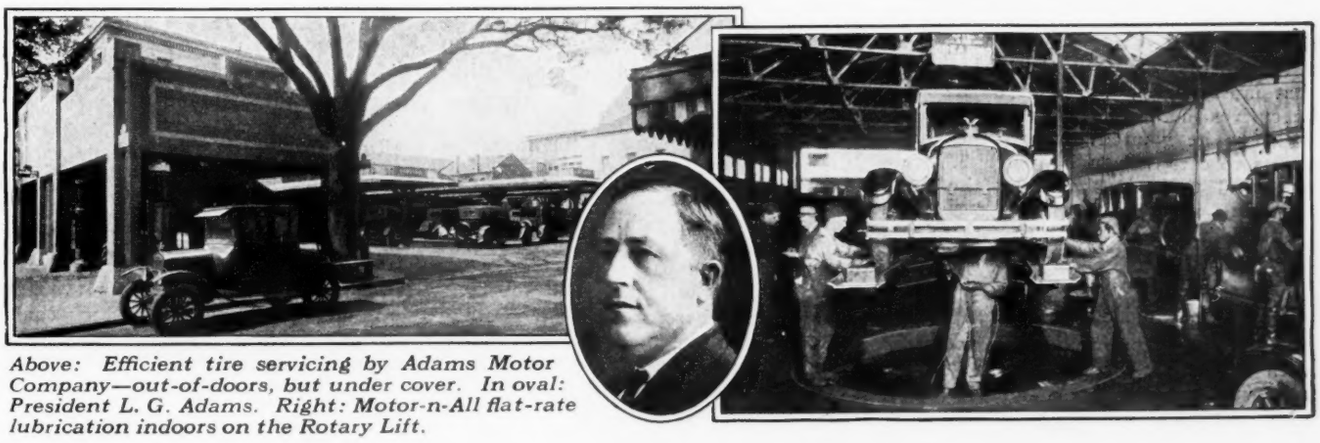
He installed a Rotary Lift under cover on the ground floor of the company's main building. He put up on the interior wall a board 6 x 12 feet, with the flat-rate schedule painted on in eye-arresting figures. Then he launched a newspaper advertising campaign. And so well did he merchandise "Motor-n-All" that the Rotary Lift has been a real money-making investment, giving complete oil and grease service to an average of ten cars a day.

Link-Up in Service

Adams has been successful in tying "Motor-n-All" right in with tire service, repairs and washing. If a car is brought in for repair, the attendant suggests a washing and complete "Motor-n-All" job before it goes out.

Outside of its own stations, which are now strong Havoline boosters, the Adams Motor Company is steadily enlarging its hold on territory for the sale of Havoline. "It's an oil that builds and holds popularity," declares L. G. Adams. "We've found that the public has confidence in it. And under the franchise plan we can build up a market with profit to ourselves. So why shouldn't we think of our Havoline lubrication business as a permanent extra-profit line?"

(Outside Indiana, Illinois, Ohio and parts of Michigan and Kentucky—except territories already allotted—the Havoline franchise and Havoline support are open to local oil operators on an exclusive, long-term agreement. Other things being equal, inquiries are given preference according to time of receipt. Wire or write A. H. White, Indian Refining Co., Inc., Lawrenceville, Ill.)



Above: Efficient tire servicing by Adams Motor Company—out-of-doors, but under cover. In oval: President L. G. Adams. Right: Motor-n-All flat-rate lubrication indoors on the Rotary Lift.

Sets Up Method to Develop Executives Within Company's Ranks

By V. B. Guthrie
N. P. N. Managing Editor

Dear Reader
From Titusville

A FEW days ago you wrote me asking that National Petroleum News say something about Axtel J. Byles, president of the Tide Water Oil Co., and also head of the holding company for its consolidation with the Associated Oil Co. of California, who is himself a former Titusville man.

Your letter helped arrange an interview with this man who has some $235,000,000 in oil properties to look after—the second interview he has ever given for publication. As a result this article is written, not only for those people who knew him when he lived in Titusville, but also for the thousands in the oil industry to whom he is known by name and position.

Trained in athletics and through his studies in school and college to concentrate physical and mental effort on the task at hand, President Byles has been focusing his attention on building man power. He places an efficient, loyal, keyed-up organization ahead of production, ships and refineries.

Waited Six Months to Act

Coming into the presidency of the Tide Water company two years ago, he faced the task of reorganizing one of the older oil companies, a company established some 65 years ago. He studied six months before he made any move. Then he began to build up his executive force. Working out policies as to future crude supplies and other problems of a big, integrated oil company, important as they might be, could wait until the machine of blood and brains was built and running smoothly to carry out what policies were evolved.

The consolidation of the Tide Water with the Associated of California is practically the first major move of the company to improve its position as to physical properties since President Byles took office.

He wanted young men in his organization. Himself still a young man—in the early forties—and sensing vital new developments coming in the oil industry that must change the point of view of executives in the business towards their industry, he wanted young minds and hearts to carry through with him. That he found them is shown by the fact that, at a meeting of the 65 executives of the Tide Water Oil Co. last October, the average age of the 65 men was taken, and proved to be 35 years.

Looked Inside the Company

Even more impressive is the fact that, with but two exceptions, he found his men within the Tide Water organization. He went outside to fill but two places. That alone, the knowledge by the men in the Tide Water company that he looks to their ranks first to fill higher positions, should serve as a stimulus to their efforts.

—*Underwood & Underwood*

Axtell J. Byles, President, Tidewater Associated Oil Co., Inc.

President Byles has transferred to his executives his desire to have them aid in every way in providing for the advancement of suitable men under them. Last summer his right hand assistants received a letter from the president which stated, in part:

'We both know that, among any body of employes, there are some who stand out on account of their zeal and ability. Sometimes it is the good fortune of the general executives to know personally these outstanding employes, but usually, in a large organization, they do not come personally to our attention.

"It is important that all employes be afforded ample opportunities for developing usefulness, and especially that employes of unusual ability be afforded such opportunities. As a means to this end I desire that, henceforth, a record be kept of all employes whether they be in high or low positions."

Census of Employes

Along with this letter went a form with five questions on it, which control executives of the Tide Water company, through department heads, were to have filled out and kept on file, for their own information and for Mr.

This "Wall Paper" Finds a Ready Market

OTTAWA, CANADA, April 12

ROMANCES of riches returning are now being told as the activities in oil development in the Southern Alberta field begin almost daily to increase, but one of the most outstanding of these experiences, perhaps, is that of W. J. Stokes, proprietor of the Empire hotel, Calgary, who in the early days of the 1914 oil boom was one of the most prominent investors.

When the oil boom of 1914 died out, Mr. Stokes had become the possessor, virtually, of trunkloads of oil stock certificates which were soon afterward declared worthless. For more than a dozen years he has shown his friends a peculiar suite of rooms, the walls and ceilings of which he had papered with stock certificates—an expensive and ironical souvenir of one of the greatest oil boom fiascos ever experienced on the North American continent.

After 12 years of waiting, Mr. Stokes awoke one morning recently to find that new developments in the Turner Valley oil field, together with the merging of several of the old companies under new charters, had brought renewed value to his wallpaper. Investigation proved that some of the stocks formerly declared worthless could now be exchanged for the equivalent of $2,000 in Royalite (Imperial Oil, Ltd., subsidiary) shares. Others, it was found, could be exchanged for approximately $1,500 worth of other types of stocks.

Mr. Stokes declared that the rooms now papered with the certificates represented only a portion of the shares he had originally possessed, because bales of them were destroyed in the fire which gutted the hotel a few years ago.

When the new hotel was built the certificates which now adorn the walls were saved from the flames because they were deposited in an old safe, but even with the losses he has sustained there still remained sufficient certificates to paper the walls and ceilings of two fairly large rooms.

A glance over these walls, even with their blank spaces created by the removal of some of the stocks, brings back to memory the names of several companies once active but now apparently defunct. One ceiling, still practically intact, is covered largely with Stokes-Stevens and Ceepcar. Other companies represented in the scheme of decoration are Erie, Christie, Mt. Stephen, Marquis, Empire National, Beaver, Sarcee, Federal, Fidelity, Union Pacific, Sunbeam, Blood Reserve, Alberta Pacific Consolidated, Mud Lake, Big Four and Pennant.

One certificate of McDougall Segur when taken from the wall for $1,000, and 1,500 shares of Acme were turned over at a value of 15 cents each. In addition to these, 900 shares of the old Dome, Mount Stephen, Millarville and the United, found varying values on the oil brokers' market.

Bedford's Successor in Directorship Of S. O. N. J. Is Veteran Oil Man

Courtesy of "The Lamp"

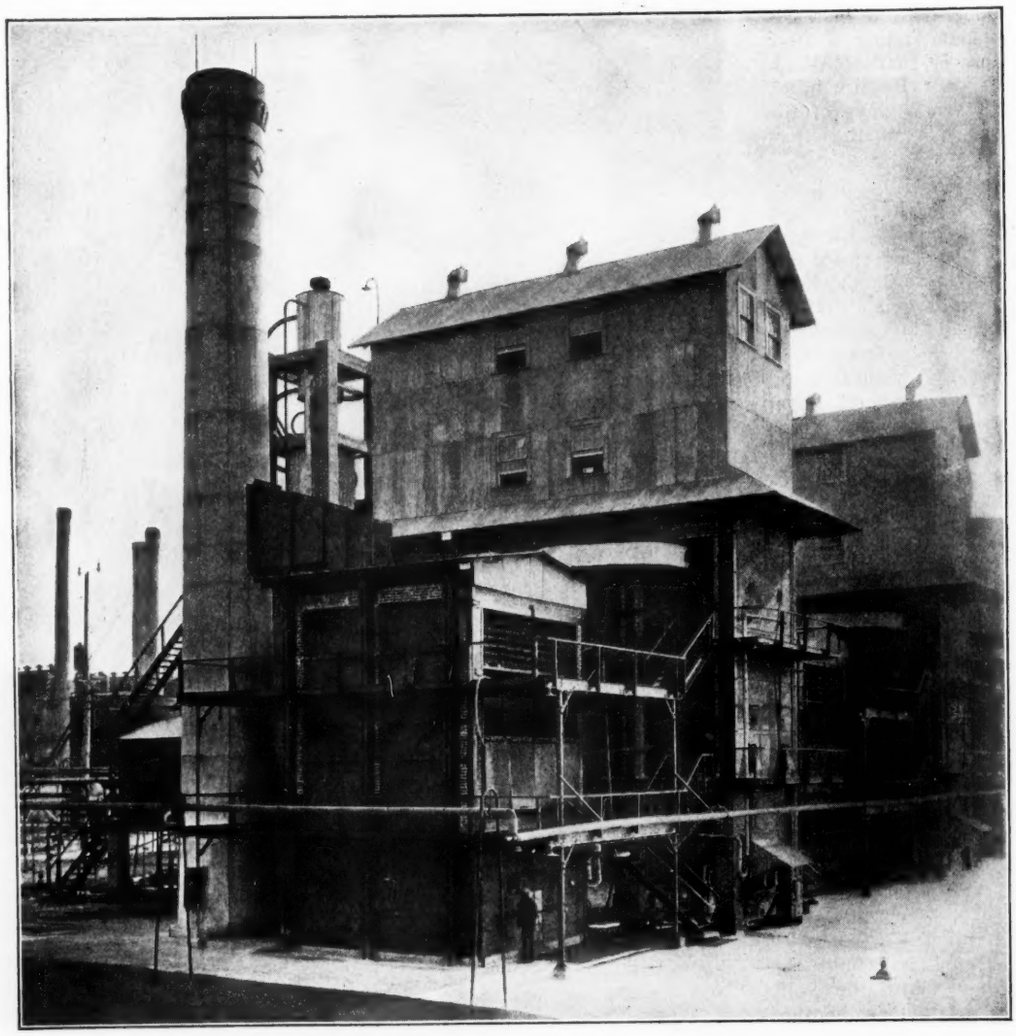
D. R. Weller, new director of Standard Oil Co. of New Jersey.

CLEVELAND, April 10.—D. R. Weller, formerly president of the Standard Oil Co. of Louisiana, New Orleans, has recently been elected to the board of directors of the Standard Oil Co. of New Jersey, 26 Broadway, New York, succeeding the late A. C. Bedford.

Mr. Weller has spent 35 of his 53 years in the oil business, starting work in 1891 at the Whiting, Ind. refinery of the Standard Oil Co. of Indiana. While his experience in the oil industry has covered every phase of the refining branch particularly including refinery construction work, he has gained as well a broad knowledge in the producing and marketing end. His brother, Col. F. W. Weller, whom Mr. Weller succeeded in his various positions with the Standard, has gone down in Standard Oil history as the one who drove the first stakes for what is now one of the largest oil refineries in the world.

After spending three years at the Whiting refinery, Mr. Weller went to Rouen, France, where he helped to build the Bedford refinery, the first American plant of that sort in France. In 1894 he returned to Parkersburg, W. Va., where he remained for eight years. His next move took him to Beaumont, Tex. where he stayed for seven years, and in 1909 he went to Baton Rouge to build the new refinery of the Standard of Louisiana. He became a director and later vice president of that company, and after his brother was appointed vice president of the Standard Oil Co. of New Jersey, Mr. Weller was elected president of the Louisiana company.

Mr. Weller built an attractive home at Baton Rouge and was a leader in civic life. During the war he organized a community house for the entertainment of enlisted men, which proved so successful that the citizens voted to retain it as a permanent feature.



One of the
79 Holmes-Manley Units
in Operation by
THE TEXAS COMPANY

Gas Proof Light Globes and Careful Installations Protect Rigs

By Paul Wagner
N. P. N. Staff Writer

HOUSTON, April 10

PRODUCING companies in the oil fields are turning more and more to the practice of having their electricians install lighting facilities in derricks rather than permitting the drilling crews to put them up in the old haphazard manner.

There was a time when the lead-in wiring from the electric generators was wrapped around a nail in the derrick or tied in place with old pieces of rope or belt lacings. Now the hazards of such practices are being eliminated by having the wiring strung on porcelain knobs or other non-conductors.

Another desirable practice that is growing in usage is the encasing of electric wires in conduits inside the derricks. The conduits provide an additional safeguard against fire and accident hazards. No special arrangement is followed with regard to the placing of electric globes except that they are put around the bottom girth of the derrick and up in one corner to afford a maximum of light.

Vapor Proof Globes Used

Some of the operating companies are using vapor proof lights with heavy outer globes that fit into standard keyless sockets of type used in refineries and natural gasoline plants. These are described as gas proof and, therefore, of especial value in guarding against fire hazards.

When vapor proof globes are not used, and sometimes when they are, wire guards or screens protect the electric lights in the rig against breakage. This precaution is especially necessary where the light globes are not stationary and where they are liable to breakage because of swinging against machinery.

Wiring outside the derrick itself is described as satisfactory if the wires are strung in accordance with the National Electric code, which provides for porcelain knobs and other non-conductors as against wrapping around nails or tying-up with old ropes, etc.

Fire hazards around drilling wells were much greater in the days when open flames, or gas flares, were permitted than they are now. The use of incandescent electric globes has reduced the hazard to a minimum except through breakage of the bulb of a lamp and ignition through the inrush of explosive gas. Vapor proof globes work to the end of guarding against such a condition, and even the wire guards or screens will usually do the work required of them.

It is true that carelessly installed conductors may give dangerous flashes from the wiring, but thorough installations made by electricians are such that the possibility of obtaining such flashes is remote.

Carbon Filament Lamps Best

Investigations made a number of years ago by the United States Bureau of Mines indicated the safety advantage of carbon-filament lamps in comparison with tungsten-filament lamps of the same rating. It was found, according to technical paper 79, that the safest carbon filament lamp was rated 35 watts at 220 volts, but a tungsten-filament lamp rated 25 watts at 220 volts ignited an explosive mixture in more than one-fourth of the trials made by smashing the lamp, whereas a tungsten lamp rated 25 watts at 110 volts caused the gas to ignite in more than 85 per cent of similar trials.

All standard sizes of carbon filament lamps ignited the gas at least once in a series of tests made by breaking off the tips of the bulbs and all sizes of standard carbon filament lamps except those rated 8 candlepower, 220 volts, ignited the gas when the bulbs were broken by smashing, as with a club, stone or other missile.

Some 110 and 220 volt tungsten lamps of 25 watts capacity that were also tested by smashing in the presence of explosive gas ignited the gas in 25 to 85 per cent of the trials. Some sizes of lamps ignited the gas in almost every trial while other sizes of lamps caused ignition in only a few of many trials.

It was observed that the tendency to cause ignition decreased as the lamps decreased in candlepower and increased in voltage. As hereinbefore stated, the one size of lamp that failed to produce ignition when smashed under normal conditions was the 8-candlepower, 220-volt carbon filament lamp, and even this size of lamp caused a single ignition out of 20 trials made by breaking the tip from the bulb and allowing the gaseous mixture to enter in a small stream that did not break the filament.

The use of flood lights for pipe racks and other lease equipment is especially recommended by progressive operators, but a canvass of installations in Texas shows that generally these lamps are not used to illuminate the derricks. As flood lamps require to be installed outside the rigs, the derrick timbers or other obstacles in the path of the lights, tend to cast shadows, it is explained.

The following suggested specifications of the Bureau of Mines for an electric-lighting system for oil and gas wells cover lamps, transmission line and the wiring near the well.

Lamps

Voltage of lamps, 220; Candlepower of lamps, 8; Kind of filaments, carbon.

Mechanical Protection of Lamps

Outer globes—Heavy glass, making air-tight inclosures around bulbs.

Guards—Heavy metal, securely fastened to the support of the outer globe.

Transmission Line

Insulation of conductors—Double-braided, weatherproof.

Spacing of conductors—Ample everywhere, and not less than 24 inches anywhere except in pipe or where entering fittings.

Support of Conductors—Securely tied to glass or porcelain insulators that are carefully installed so as not to be strained or cracked.

Wiring at Well and Wherever Gas is Likely to be Present

Insulation of conductors—Rubber-covered, double-braided.

Support of Conductor—In iron-pipe conduit.

Sockets and receptacles for lamps—Keyless—well constructed and insulated (preferably not with brittle material like porcelain) and mounted in steel boxes to which conduit can be secured.

Switches—Indicating. Switch contacts inclosed in gastight inclosure. Switches should be installed as far as possible from the presence of gas.

Fuses—Should be provided for every twenty 8-candlepower, 220-volt lamps used. Should be inclosed in gas tight inclosures made so that they can be connected to conduit.

Waite Phillips Back as Oil Producer

HOUSTON, April 10.—The re-entry of Waite Phillips into the producing branch of the petroleum industry has become known through the granting of a permit to operate in Texas under the name of the Phillmoor Co., which was recently capitalized for $2,000,000.

Associated with Mr. Phillips are R. B. Pringle and Gillette Hill, the last mentioned having been formerly Texas manager of the Waite Phillips Co., which last year was merged with the Barnsdall Corp. after its sale to Blair & Co. M. L. Massingill, Fort Worth lawyer, has been named Texas agent for the Phillmoor Co.

It is understood in Texas that general headquarters for the new firm will be maintained in Tulsa.

Professional Card Directory

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Leo Ranney, *President*
Oil Mine Engineers
26 Broadway — New York City

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AUTOMOBILE, LIQUID and GRIT SOAPS,
SOLUBLE OILS for metal cutting.
SPRAYS, DISINFECTANTS, etc.
Rates reasonable
BYPRODUCTS LABORATORIES
Lake Bluff, Ill.

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Consulting Petroleum Technologist
Inventor Gomory Cracking Process
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HUNTLEY & HUNTLEY
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National Petroleum News
802 Caxton Bldg., Cleveland, Ohio

Candidate for Governorship Is Prominent Oil and Gas Man

Thomas W. Phillips Jr.

Staff Special

WASHINGTON, April 10

AN honest-to-God oil and gas man, Thomas W. Phillips, Jr., of Butler, Pa., is a heavily supported candidate for the Republican nomination for governor of the commonwealth in which the oil industry had its beginning. His father, also Thomas, was one of the men who made the name, Pure Oil Co. known in the industry. The Phillips family retired from it when control was sold to the Dawes' most distinguished of whom is Charles G. Dawes, vice president of the United States.

From an oil point of view, probably, it is unfortunate that Mr. Phillips has competitors for that honor. Others are former Senator John S. Fisher, of Indiana county, prosecutor of the Pennsylvanians who grafted in the construction of the new capitol at Harrisburg, and former banking commissioner; E. E. Beidleman, of Harrisburg, long known in Pennsylvania politics, and John K. Tener, of Charleroi, former governor and former major league baseball pitcher.

Mr. Phillips is the head of the T. W. Phillips Gas & Oil Co., a producing company with oil and gas wells, principally Butler and Indiana counties, a director of the Shell Union Corp. and an officer or director of the Oklahoma Natural Gas Co., Ohio Fuel Corp., and companies that furnish light and heat for municipalities in western Pennsylvania. It would be accurate to say he was born in the oil business, he and his brother B. D. Phillips inheriting a well established position in the industry from their father the late Thomas W. Phillips, who, like the present Thomas W. Phillips was a member of the House of Representatives, in the middle of the 1890's.

Being in a business that requires a high degree of technical engineering work, the younger Phillips eschewed the classics except as they were taught at Phillips Academy, Andover, Mass., doing his major work at Sheffield Scientific, Yale University, whence he was graduated, and has his Ph.B.

The present is Mr. Phillips' second term in the House, which means that he is becoming well acquainted with his work here in Washington. If districts would return to the old habit of keeping their members here several terms, there are many who believe the country would be better served. However, Mr. Phillips is willing to give up his seat in the House for the governor's chair in Harrisburg. The primaries will be held May 18.

Although he was born in 1874, Mr. Phillips is a young man, big of frame and endowed by nature as well as education to carry on the multitude of business affairs in which he is interested. His hair, of which he has a good shock, is just beginning to gray. He likes politics but not spread eagle statesmanship of the sort that seems to carry men so far in some parts of the country, his idea seeming to be that speech was made for conveying thought, not merely sound.

Gas Company Building Panhandle Line

HOUSTON, April 10.—Newspaper advices from Wichita Falls say that the Upham Gas Co., which is laying a 16-inch gas line from the field near Shamrock, in Wheeler county, to Wichita Falls, proposes to begin making fuel deliveries by September 1, next. The distance is about 155 miles. The industrial rate is reported scaling down from 17 cents per thousand cubic feet to 11 cents, according to quantity consumed.

LEXINGTON, NEB.—Farmers in this territory are selling shares for a co-operative oil company, which will sell gasoline at established prices and rebate every 90 days, according to the Rosenberg Motor Co.

At Overton, the nearest town, they have already been successful in getting started with no investment. A new Independent marketer helped their cause by renting them storage tanks. The Rosenberg company states that the farmers have been in about every line of business excepting oil during the past 15 years.

Oil and Gas Pipe Lines Paralleling Each Other Provide Economy

By Paul Wagner
N. P. N. Staff Writer

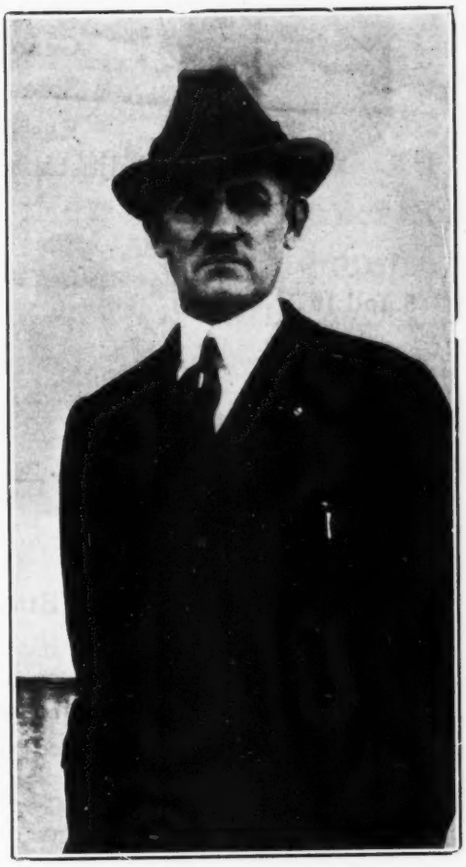
HOUSTON, April 10

WHEN an oil pipe line unit and a natural gas system both qualify as subsidiaries of a major petroleum company a lot of slack can be taken up in their construction and operation.

This fact is clearly shown in the current work of building the Magnolia Pipe Line Co's. 270-mile oil system southward from the Smackover, Ark., district to the plant at Beaumont, Texas, of the Magnolia Petroleum Co.

Already 60 miles of construction at the north end of the oil pipe line has been completed. The remaining 210 miles can be finished in a minimum of time, because the line from Sarepta, La., southward parallels the 18-inch and 14-inch system of the Magnolia Gas Co., a companion corporation. The gas pipe line was completed at the beginning of 1925. The oil system is expected to be in operation by June of this year, good weather permitting.

One of the first advantages provided for the oil pipe line results from plans made by the parent company at the time the gas system was built. Extra crossing loops were installed across the Neches river, at Beaumont, so as to provide for oil lines at such time as construction proved desirable. Similar provisions were also made at other waterway crossings. Now it is only necessary to build the main line sections from waterway to waterway and weld the pipe into the crossing loops that had been provided in advance.



Charles R. Swank, general superintendent, in charge of Magnolia pipe line construction

Gas Engines for Power

An advantage in economical operation results from the ability of the pipe line company to install gas engines for power at pumping stations and draw its fuel supply from the gas system instead of burning the more expensive oil required by the usual type installations.

Only the El Dorado, Ark., pumping station will use oil for fuel. The Sarepta, La., Center, Texas, and Kirbyville, Texas pumping stations will use gas engine power; and electric power will be used at the Megasco, Texas, and Latex stations, the last mentioned located near DeBerry, Texas. The most economical power available at the individual station governs the type of installation used.

Besides the 8-inch main line construction from Smackover south to the Gulf of Mexico, the oil system will include about 45 miles of 4-inch laterals which will provide outlet from steel storage in the Bull Bayou district of De Soto and Red River parishes, Louisiana. In that district the Magnolia has nearly a million barrels of steel storage oil produced by its Louisiana field subsidiary, the Fortuna Oil Co.

Line All Welded

As in the case of the previously built gas system, the present oil pipe line is an all welded project. Considered together the two pipe lines constitute by far the longest and biggest all welded construction ever undertaken in the oil and gas industries. There have been larger pipe lines and longer pipe lines, but they have not been welded throughout.

An example of economical welding work was developed first at the time of the gas line construction, after Fred M. Lege, Jr., president of the gas company, had made a careful study of welded pipe lines. It was decided to cut down the number of teams used in moving acetylene generators along the right-of-way, and also reduce the labor factor, by keeping the generators at a fixed position in working hours; supplying the acetylene gas to the welders by means of a small pipe line.

Under the new system moving time was invariably after the welders had quit work for the day. Tractors or teams, whichever were most convenient, moved the generator wagons to a suitable place for set-up after the head generator man had located a desirable site several hours in advance. Previously it had been necessary to have at least one team hitched to each generator, and in bad weather as many as four teams had been necessary. Teams were also required for the portable welding outfits and the tank wagons hauling water for the generators. The number of teams necessary was materially reduced by having the generators stationed in one spot throughout working hours.

Welders lose little time in working under the improved system. One team and one or two men are required to keep the acetylene supply line in condition as against the necessity under earlier practice of having both a man and team for each generator used. Under the newer system, with four generators in fixed position, one generator man and his helper easily take care of the whole number.

It was necessary when generators were moved singly after each series of welds to collect equipment from each generator and place it on the wagon, then to uncoil hose and set for the next joints upon reaching the new point for welding. In using the acetylene supply line it is only necessary for the welders to disconnect the oxygen regulator from the oxygen cylinder and the acetylene hose from the acetylene line, then carry equipment to the next welding station and proceed with their work.

Painting Protects Pipe

Precautions against corrosive elements in the swampy soil through which the Magnolia lines are built include the use of pipe coating of the type distributed by the American Paint & Supply Co. The pipe is first painted with a primer coating after which a heavier coat is used. Asbestos felt paper, manufactured by the Phillip Carey Co., is then wrapped

around the pipe and an additional paint coating used.

Booster stations on the gas system are located at Magasco, two miles north of Pineland, Texas, and at Latex, near DeBerry, Texas. Both are equipped with 5000 h. p. Cooper engines. Bruce McBeth gas engines are used for power in the pumping stations of the oil system where electrical installations are not used.

Buildings and warehouses at the various stations are of the latest type Austin Brothers all-steel and brick design.

Swank Supervises Job

The Magnolia's oil pipeline construction is under the direct supervision of Charles R. Swank, formerly wharf master for the company at Beaumont. His work is carried on in cooperation with D. C. Stewart, veteran pipe liner, who is now vice president of the Magnolia Petroleum Co., and general manager of pipe lines.

As general superintendent in charge of actual construction, Mr. Swank recently established headquarters near Shreveport to carry ahead as expeditiously as possible the completion of the oil system southward to Beaumont.

Mr. Swank's shift back to pipe lining means his return to an early industrial love, as his first service in the petroleum world was back in the Ohio territory where he worked as a lad for the Buckeye pipe line system. A large part of the building of stations and lines in the early days of the Magnolia's Beaumont plant construction also came under his supervision.

Sales Head Becomes Marketer

BALTIMORE, MD.—Harold F. Brown, who has been sales manager for the Seaboard Midland Petroleum Corp. here, has resigned to enter the oil marketing business for himself. Mr. Brown's headquarters are in the Munsey Bldg., Baltimore.

Previous to his connection with the Seaboard company, Mr. Brown was for 13 years sales manager for the Interocean Oil Co., Baltimore.

Two More Dubbs Units Completed

ARKANSAS CITY, April 9.—Finishing touches are being put on the two new Dubbs cracking units being installed at the plant of the Arkansas City Refining Co. A test run will be made about April 1. The Arkansas City plant formerly had four units of the Dubbs process which were destroyed by an explosion. The new units are of the latest design with a capacity of 1000 barrels each.

Named Director of A. O. M. A.

CHICAGO, April 10.—Morris Milder, president of the U. S. Oil Works, Omaha, Neb., recently accepted his appointment to a place on the board of directors of the American Oil Men's Association. At a recent meeting of the board and the officers Mr. Milder's name was suggested and approved but announcement was withheld until he should accept.

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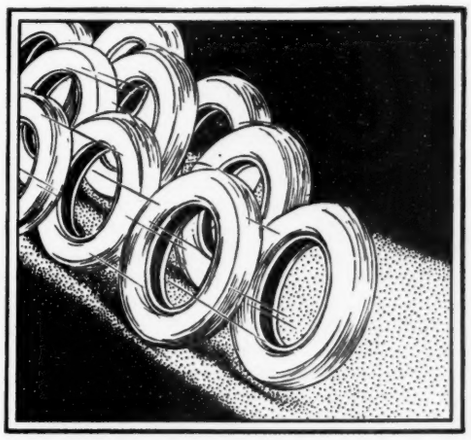

IN ATLANTA, GEORGIA, a wide-awake automobile tire concern worked out a follow-up telephone sales campaign. Telephone sales are assigned definitely to one employee and are his entire work. Fifteen days after the visit of each salesman this man gets the dealer on the telephone and solicits additional business. The telephone sales cost of this new business runs extremely low—often as low as one-half of one per cent on the total volume of new business secured!

BONDS AND BRICKS, ice cream and locomotives, matches and coal, groceries and flowers, textiles and real estate — these and dozens of other commodities are being bought and sold by long distance telephone. Long distance calls reach customers and prospective buyers who otherwise could not be reached so cheaply or promptly, if at all. They save the strength and health, as well as the time, of executives and salesmen. A long distance call covers hundreds or thousands of miles and *gets the answer* in a small fraction of the time and trouble required by any other means of communication.

Are you and your concern using your telephone arm with which to outreach distance for business? Are your executives in constant contact with their men and with important customers? Are you using the telephone on the principle of the heaping measure—to get new business at almost negligible expense — new business that otherwise would be lost?

The Commercial Department of your local Bell company will gladly study your business and lay out a program of Long Distance selling, buying or collections. In the meantime you can talk 400 or 4000 miles just like speaking across the street. What far-distant call would you like to make, now? . . . . . *Number, please?*

BELL LONG DISTANCE SERVICE

Byles. This census of outstanding employes is to be taken twice a year. The record shows the length of service of the individual, scholastic training, previous business experience before coming with the Tide Water company, what the man's superior executive regards as his greatest ability, and what he regards as the man's greatest handicap. Lastly it shows when, in the executive's mind, the man will be ready for advancement.

Of a rugged physique, with the appearance of a man who makes it a point of personal pride to keep himself physically and mentally fit, Mr. Byles brought to the presidency of the Tide Water company two years ago a lawyer's keen powers of analysis. As in other cases among oil companies he came up through the position of counsel, being appointed to that position in 1917, when he moved from Titusville to New York.

He cheerfully admits a lack of intimate knowledge of any operating branch of the oil industry, but he's picking men for his control positions who do know it. He himself doesn't know as yet all the tricks of the business executive to save his energy and his time by a shell of brusqueness, by throwing out a skirmish line of secretaries and assistants to ward off minor attacks.

His executives had a hard time getting him out of what they called the "barber shop" until just recently, an office of easy access to almost anyone who wanted to see the president of the company.

"I brought to this job two years ago principally faith," Mr. Byles said, looking over the orderly top of a massive desk to the walls of his office where hang pictures of the first three heads of the Tide Water Oil Co., "faith in the institution these men founded and carried successfully through the early days of the industry, when surely the problems were greater than those the business faces today; faith in the men in the present organization and faith in the oil industry itself as being of great service to human kind today.

"By now I have progressed to the point where I have supplanted that faith with confidence in this company and the place it is to occupy in the oil industry."

His material aim for the future for his company can be given in his own terse statement, "Giving good products at fair prices." Although a strong believer in the public relations work of the oil industry, he believes that eventual recognition by the public that this is the mission of the whole oil industry will go far towards establishing the business in greater public confidence.

He expects, through engineering developments both in the oil industry and the automobile industry, to see increased several fold the power the public can enjoy from the oil resources of the nation. "Means will be developed to take a larger share of the oil in the pools underground from the sands," he said. "The public will have the use of oil in the ground which we are unable to extract generally under our present methods. More efficient processes will turn more of that into gasoline. The automobile people, in their turn, will provide for a greater percentage of power to be taken from the gasoline as motor fuel."

Welfare Work Important

Along with his keen desire to develop executives within his organization, President Byles takes a great interest in welfare work for his employes generally. One of the two men he chose from outside his company is his assistant, J. B. Deacon, who has had a great deal of experience in personnel work, but outside the oil industry, and a young man, it goes without saying. Mr. Deacon is in charge of a major division of the company's activities, known as Administrative Control. Mr. Byles tells of Mr. Deacon's work as a "Lincoln's hat job," in that he takes over activities that do not seem to fall systematically in such divisions as producing, manufacturing, sales, and so on.

Mention of Titusville brings a fresh light of interest to Mr. Byles' face, just as remembrances of this place stir numerous others in the oil industry over the world. "A man once asked me how big Titusville was," he said. "I replied, 'about ten thousand.'"

"Why", said this man. "I've met at least twenty thousand people myself in the oil business who said they came from Titusville."

Offers Measure for Self Appraisal of Qualities

HERE is a list of questions for an executive to ask himself, which J. B. Deacon, assistant to President Byles of the Tide Water Oil Co., prepared at the latter's suggestion and presented at a conference of executives of that organization some time ago.

They were offered as questions which would allow a man to appraise himself as to his fitness for executive position, and his ability to coordinate the efforts of his department with others.

1. Of what precisely do my responsibilities consist? Am I certain that my own conception of my responsibilities is identical with the conception of the executive to whom I report?
2. Do I find my time unduly occupied with the details of management? In conference? In paper work?
3. Do I try to plan my work—a year ahead, a month ahead, a week ahead, a day ahead?
4. Do my plans remain merely plans, or am I able to carry them into execution without undue delay?
5. Does the control of the operation for which I am responsible actually centre in me? Have I in hand at all times all essential information for directing the operation? On the other hand, are my records and reports more comprehensive and detailed than is necessary for control purposes?
6. Do I rely exclusively upon operating and accounting reports for information about my organization? Or do I keep close, vital, personal touch with my staff? Do I know how to make a thorough inspection of my operating units? Does my disinclination to travel tempt me to neglect distant units?
7. Do I know how to express my policies and plans through my associates and subordinates; that is to say, do I know how to delegate responsibility? And do I sufficiently realize that the responsibility I delegate imposes upon me the duty of checking carefully as to the discharge of the delegated responsibility?
8. Do I give my associates and subordinates a sense of participation, of partnership in planning and conducting the operation? Do I give them an opportunity to develop judgment and initiative?
9. When matters come before me for decision, do I decide them with reasonable promptitude? On the other hand, do I tend to decide them so quickly that I do not give due consideration to all pertinent factors, and to the views of the interested parties?
10. What improvements in organization or methods, what economies have I effected during the past year? What have I in mind for the coming year?
11. Have I recently, or ever, closely analyzed, or caused to be analyzed, the duties making up each position in my unit of the organization? If not, can I assume that I really know whether my force is overburdened or underburdened?
12. What employees of mine have earned and received promotion during the last year? Can I name others who are likely to qualify for promotion during the year to come?
13. Are my key positions understudied?
14. Do I keep in touch with my industry, through trade publications, trade association meetings, and contacts with individuals outside of my own company?

Then I would address to my private—unofficial—self, these questions:

1. Am I a prey to anxiety, worry, fear—over my health, my position, the result of my work? Do I adequately realize the blighting effect of these emotions?
2. Do I from time to time withdraw myself from business concerns and, through reading, meditation, worship, play, social contacts, seek to replenish the sources of vision and power?

The Editor's Viewpoint

National Petroleum News

Safety Training Valuable

DURING parts of 1924 and 1925, the Bureau of Mines, in cooperation with the Mines Safety Service division conducted a successful campaign of first-aid instruction and training for oil company employes. Lectures and demonstrations were given by expert crews attached to the mine-rescue cars, which were taken to central points in the various districts. All told, about 2700 men were trained in Kansas, Oklahoma, Texas, Louisiana and Arkansas.

The Bureau is now offering the use of one of its rescue cars to the oil industry for a similar purpose during the coming summer, and stands ready to repeat the campaign of first-aid instruction in the oil fields. In order to assist in arranging the car's itinerary, oil companies desiring to have their men take this valuable training should notify the Bureau of Mines at Bartlesville.

To do the most good, first-aid work must have the endorsement of every employer in the oil industry. There are approximately 150,000 men working in the various departments of the industry in the five Mid-continent states. Possibly one in every 10 of these men receives some sort of physical injury during a year. If each of the injuries could be given intelligent treatment immediately after it occurred, it would mean a very great reduction in physical suffering and would greatly aid the injured men to get back on the active pay roll with the minimun of lost time.

Every production superintendent, every drilling contractor, every employer of labor in the oil fields, should see to it that his employes are given the chance to take the Bureau of Mines course in first-aid treatment this summer—A. F. H.

Work Hard, Stick To Facts, Prosper

MOST of the oil industry's trouble with the public has come from the public not having the facts, nor have the public's leaders had the facts. Evidently they did not want them.

A backward look now shows that North Dakota's trouble came from the same causes.

We have all heard much about the poverty-stricken farmer. In 1923 hundreds of so-called leaders of the farmer were going to give him everything in the world and lead him into a new land. The farmers in North Dakota believed more in their leaders than elsewhere, or possibly they had poorer leaders. State grain elevators, state banks and state building and loan associations were started by the state. Time has shown them all to be failures.

But here is some further interesting data. A crew of men, in charge of North Dakota's Agricultural College made a detailed survey of four townships in Foster County, N. D. in 1923. They reported in detail on 106 farmers, their financial condition and all. The summary of that first report showed that the farmers were not broke, but were bothered with a load of frozen assets.

Two years later, the same agricultural college made a similar survey of the same county and checked the same farmers. The NATIONS BUSINESS prints the figures and says that of the original 106, 1 had died, 5 had moved out and 5 of the remaining 100 could not be reached by the survey crew. All the others were still on the land.

Of the original farm owners 46 still own farms. In the two years their average assets had increased from $26,521.00 to $27,176.00 each and their average liabilities had been reduced from $10,652.00 to $8,906.00 or a gain in net assets of $2,333.00 each; 38 tenant farmers in the same time had an increase in their net assets of $1,525.00.

What has brought this about is hard work, careful handling of money and the fact that the average yield per acre of wheat increased from 5.6 bushels per acre in 1923 to 15.8 bushels per acre in 1924 and 14.8 bushels in 1925, and the price went up from below $1.00 a bushel to as high as $1.35. The farmers of this country have had periods of over-production of their products, periods when there were more farmers than the world required, and they've also suffered in reputation from the fact that many people are farmers who have no business being farmers.

Facts are sometimes hard to get and often times it is harder still to make people believe them. What is helping the oil industry these days is an earnest desire on the part of all to dig hard for facts, study them and then to believe what they say.

This year will be a good one for all in the oil industry if each man will stick close to the facts pertaining to his own line of business. Those facts today tell him to go slow, not to produce too much oil, not to refine too much gasoline, not to spread his distribution over too big a territory, and to bear in mind that when he takes business away from the other man, the other man is going to fight and that generally means a cut in price.—W. C. P.

Here's a Work We All Can Boost

ELSEWHERE in this issue there is an article telling of the work which Bureau of Mines engineers are now undertaking in making a comprehensive study of present-day practices in producing oil, with especial reference to methods of increasing production.

It is desirable that every operator who possesses information on the subjects the Bureau engineers will inquire into, share it with the investigators. This is a project that is for the common good. Every operator will have equal access to the report that will be published. It is merely trading something you know for something the other fellow knows and the Bureau engineers will bring it all together.

On methods designed to recover the big percentage of oil from a sand, the industry is still groping. Out of that patient investigating will come not one but several methods that will take these residue reserves and make them available for world markets. It is well to take stock from time to time on what has been accomplished to the end that all will be acquainted with what others have done and are trying to do. That is the kind of inventory that the Bureau will take. It will succeed according to the way it is received by operators.—L.E.S.

What's a Season or Two, Anyhow?

SPRING is here at last! Still another season has rolled around and we can all feel its cheery tang about us everywhere. The links are dotted with the early species of golf bug; our next door neighbor is tuning up the "old bus" for more summer jaunts into the great open spaces; and the kids are playing "knuckles down" in between temperature taking visits to the old swimming hole.

Yes sir, spring has come with its freshness, budding flowers, chirping birds, spring fever and everything. But what does it all mean to a Bessemer compressor? You're right! It doesn't mean a thing.

Seasons may come and seasons may go but the Bessemer keeps on indefinitely, impervious to such mere trifles as seasonal changes.

Bessemers know no season. One merges into another through a string of years and they roll by unnoticed while the Bessemer keeps on uninterruptedly working. That's why the Oil Industry depends on Bessemers—and why shouldn't they?

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Cole-Bruni and Piedras Pintas Pools New Texas Developments

By Paul Wagner
N. P. N. Staff Writer

HOUSTON, April 12

DUVAL county, in that part of Texas best described as the state's "southern tip," is now claiming a certain amount of attention because of oil found in two different areas under entirely different conditions.

In the Cole-Bruni area, in the extreme southwestern part of the county, two wells are yielding oil regularly from the approximate level of heavy gas development at above 1700 feet. These wells, which produce from 350 to 450 barrels daily, give up their yields from sand horizons affected by what are known as structural influences.

The other productive area, located in the north central part of the county, embraces the twin salt domes known as Piedras Pintas and Palangana. Only Piedras Pintas has been proven productive, but both it and Palangana are undergoing further tests. Palangana is about six miles north of Piedras Pintas. These domes are less than 25 miles northeast of Cole-Bruni development.

Because of the fact that salt domes are treated as such, and so differentiated, they are not referred to as structure in the sense the term is commonly understood in the oil country. They do, however, provide the "structural" vehicle for the accumulation of petroleum in connection with the type of doming they represent.

A single east flank well, completed in December by the Humble Oil & Refining Co., continued to be the source of the only deep pay production on the Piedras Pintas salt dome at the time this was written. The well was yielding roundly 250 barrels net oil, 12 per cent b.s. and w., as compared with initial production of 1200 barrels through three-eighths inch choker at total depth of 3624 feet.

Crude Similar to Mirando

Gravity of oil from the Cole-Bruni pool, testing about 20 degrees A. P. I., indicates the similarity of this crude to that produced in the various fields of the Laredo district. The nearest of these fields is about 15 miles to the westward, at Mirando City, in Webb county.

Oil coming from the Piedras Pintas well has nothing in common with the crude produced in the Laredo territory or with that found on salt domes of the Houston district, about 150 miles northeast. It tests about 43 gravity and has a recovery of about 90 per cent gas oil, kerosene and naphtha fractions in refinery practice.

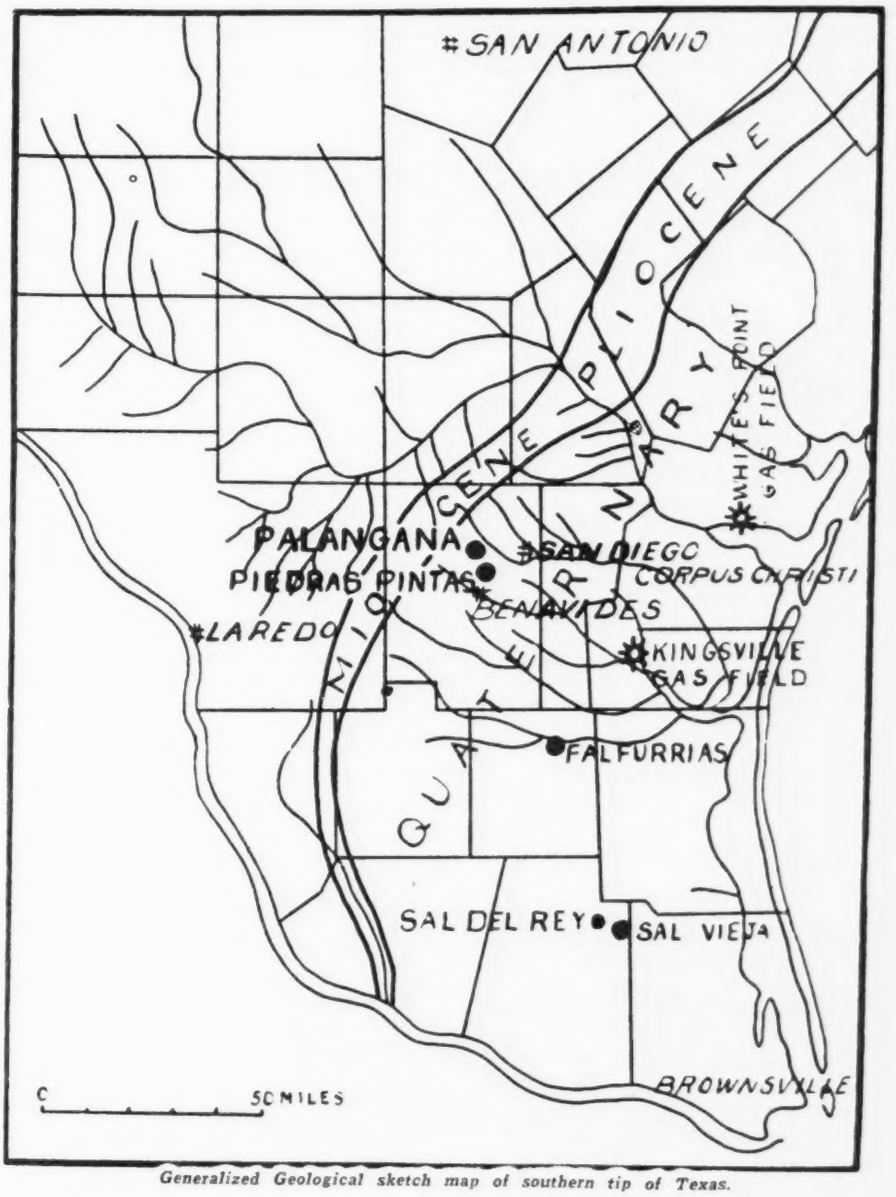
"A" grade Gulf Coastal oil, which is prized for its zero cold test lubricant values, is graded as being below 24 degrees of gravity, preferably from 19 to 21 degrees A. P. I. The highest gravity crude found on other Gulf Coastal salt domes comes from the Boling field, in Wharton county, testing 30.2 degrees.

Well Near Railroad

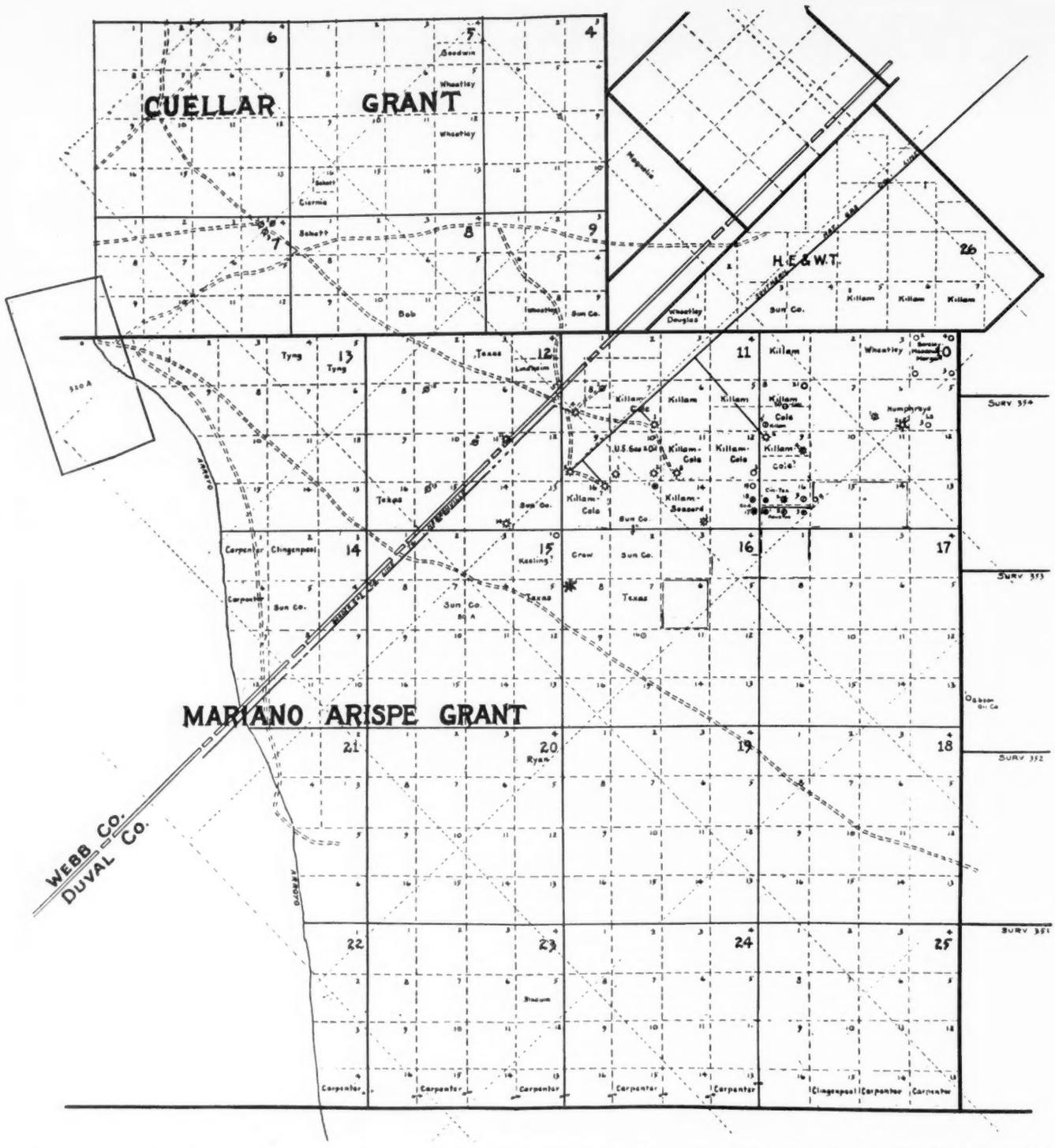
The Humble Oil & Refining Co., which controls all of the possibly productive acreage on the east flank of the Piedras Pintas salt dome, except for a few locations, set a wildcatting record when its discovery well was completed last December. The well was drilled adjacent to the railroad right-of-way at the station stop of Noleda, on the Texas-Mexican railroad, and it was only necessary to lay a few hundred feet of pipe to begin loading out crude in tank cars.

A loading rack was ready for use without the necessity for new construction work, this condition reflecting facilities long in existence for the purpose of moving out production from a handful of shallow wells producing two or three barrels each, daily, from caprock levels on top of the dome.

It came about, therefore, that a well 150 miles away from production affected similarly in a structural sense had all



Generalized Geological sketch map of southern tip of Texas.



Map of Cole-Bruni Development Area, Duval County, Texas. (Boundary between Webb and Duval counties runs approximately north.)

facilities ready to move out the oil on a few hours notice. That, someone remarked after the well came in, "is the way to wildcat."

Tests Higher on Salt

Tests of the Moody-Seagraves interests and the Magnolia Petroleum Co., both on small tracts higher up the salt flank than the Humble's discovery, have failed as yet to develop production at Piedras Pintas. Another test of the Humble, on the discovery Walsh tract, also is going down. A considerable distance to the northeast, as salt dome development goes, the Grayburg Oil Co., of San Antonio, and the J. K. Hughes Developing Co., of Mexia, each have tests under way.

On the southwest flank of the Palangana salt dome, six miles north and a little west of the Piedras Pintas plug, the Humble is drilling another deep test. Flank operations have been under way at Palangana for years, the National Oil Co. and the Sinclair Oil & Gas Co. drilling many unsuccessful tests before the Humble more recently took up its campaign of wildcatting. Nearly a half dozen deep tests there have been drilled by the Humble.

Except for the character of oil found at Piedras Pintas, the development of salt domes in the southern tip of Texas will not prove essentially different from operations in the Gulf Coastal territory closer to Houston. Oil may be expected to be found, whenever present, in lateral sands down the flanks of the domes at stratigraphic levels where the salt core provides a trap for it. The productive belts on the sides of the domes that yield oil are invariably narrow, the shape and tilt of the individual dome also affecting the width of ground that pays off.

Three other known salt domes in the southern tip of Texas probably will come in for future testing as a result

of the Piedras Pintas development. These are Falfurrias Sal del Rey and Sal Vieja, mapped in a southeasterly direction towards Brownsville. Falfurrias, in Brooks county, has already been largely leased up.

Heavy Gas at Cole-Bruni

Besides its two oil wells, one belonging to the Cintex Petroleum Co., and the other to the Houston Oil Co. of Texas, the Cole-Bruni field has a total of 17 gassers to its credit. These vary in open flow capacity from 35,000,000 to 50,000,000 cubic feet of gas daily per well. Upwards of 1200 acres of gas territory has been proved; the extent of oil production is not known, the two wells under exploitation being offsets.

Oil in the Cole-Bruni pool repeats history in that the productive wells were drilled on the east side of a gas area. A similar condition was found in the Jim Hogg county area opened by the Henne, Winch & Fariss discovery well, near Randado, more than a year ago.

Original wells in the Cole-Bruni field were drilled by the Cole Petroleum Co., which recorded small showings of oil with the gas. The only well of the Cole Petroleum Co. to really produce oil, however, was its No. 17, completed since the Cintex discovery in February. The No. 17 well came in recently flowing for a few hours at the rate of 5000 barrels daily. It was shut in for storage, but when reopened had turned entirely to gas.

Houston Pipe Line Co., subsidiary of the Houston Oil Co. of Texas, and the Southern Natural Gas Co. of San Antonio, control most of the proved gas territory in the Cole-Bruni field either through ownership of gas rights or contract with the Cole Petroleum Co. The Border Gas Co., which operates in the Laredo district, and supplies the town of Laredo, will also draw on the Cole-Bruni area through The Texas Co. In the northeast part of the field, as now outlined, the Moody-Seagraves interests have two wells in which they are interested, one drilled by themselves and the other by the Humphreys Corp., after it had bought into the Moody-Seagraves holdings.

Field May Extend East

North, west and south of the two producing oil wells, as shown on the accompanying map, completions have been invariably gassers. The field appears open only to the east for oil development, which probably will be about as extensive as in Laredo district pools farther west, along the escarpment. These pools generally have reached maximum daily averages of a few thousand barrels, but frequently they have paid their developers splendid profits because of the relatively low operating costs. Fields along the escarpment are found on the west side of the Surface Contact mapped as Miocene—Pliocene on the accompanying generalized geological sketch.

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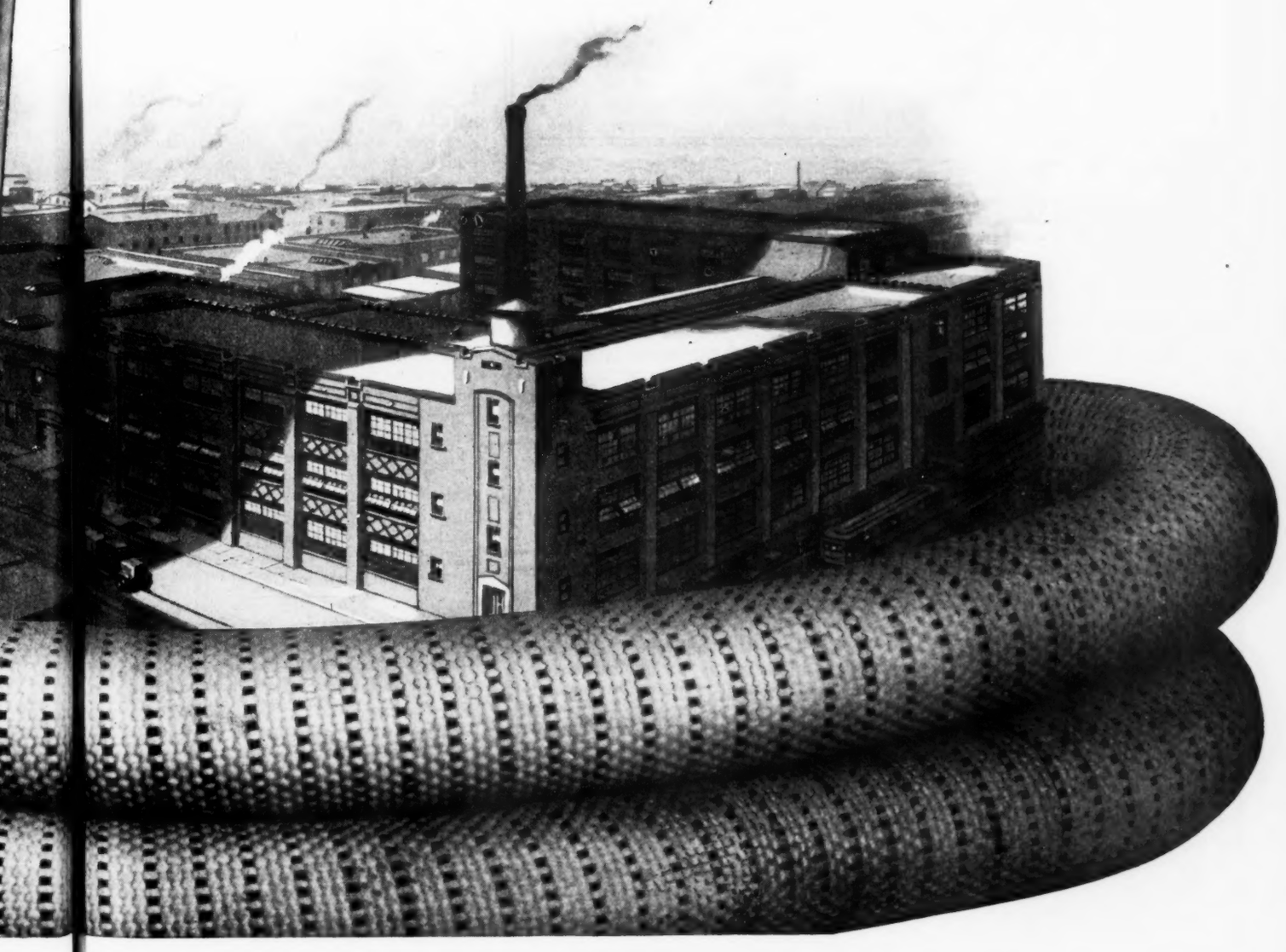

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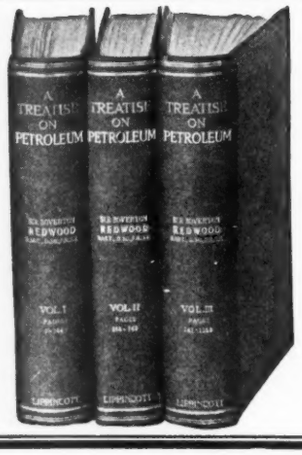

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Judgments for Hughes Company Affirmed

HOUSTON, April 12.—The United States Circuit Court of Appeals for the Fifth district has affirmed two decisions of Federal Judge J. C. Hutcheson, Jr., in the long drawn litigation between the Hughes Tool Co., on the one hand, and the Reed Roller Bit Co., and Clarence E. Reed, on the other.

In an accounting by Clarence E. Reed and Reed Roller Bit Company with Hughes Tool Company for the decreed infringement by Reed of the Hughes patent 930,759, the U. S. District Court held, on November 15, 1924, that said Reed and Reed Roller Bit Company should pay damages in the sum of $198,-797.10. This holding was appealed from by Reed Roller Bit Company and on March 25, 1926, the Circuit Court of Appeals affirmed this holding. The damages, with interest thereon, now exceed $215,000.

In the royalty case brought by Caddo Rock Drill Bit Co. against Reed and Reed Roller Bit Co., the suit was on a license contract by virtue of which Reed was granted the right to manufacture rock drills on a royalty basis. Reed withheld the payment of royalties under the belief that he was entitled to set off against the amounts due, the costs of litigation resulting from suits for infringement of patents brought against him by Hughes Tool Co. Certain offsets were allowed by Judge Hutcheson but it was held by him that Reed and Reed Roller Bit Co. should pay a total of $186,535.28 in back royalties. This holding was appealed from also, and, as in the infringement case, the lower court was sustained. This judgment draws 6 per cent interest until paid and now totals in excess of $200,000, it is said.

TULSA, April 10.—The Marland Refining Co. has begun work on an addition to its general office building at Ponca City which will double the size of the building.

TULSA, April 10.—The Western Oil Corp. has purchased the refinery of the Sunshine Consolidated Oil Corp. at Wichita Falls from the receiver, E. H. Eddleman. Tank cars were sold to the North American Car Co.

TULSA, April 10.—The refinery of the Roland Oil Co. at Bristow, Okla., has been sold to George Snedden and associates of Tulsa. Sale of refined products is still in the hands of the L. O. Carter Co., Tulsa.

ASBURY PARK, N. J.—L. M. Rosenstein, proprietor of the Reliable Service Station here, has completed a modern service station and garage, handling Texaco products. Three visible pumps have been installed. Mr. Rosenstein is planning to install a rotary lift hydraulic turn table. He has also installed an air compressor and is distributing India tires.

Furnace Oil, Its Future Availability

By R. L. Welch
Secretary and General Counsel, American Petroleum Institute
Delivered before American Burner Association at Detroit

THE question, what petroleum resources will be available in the future for house heating can be answered only by an opinion founded in part on known facts, and in part on conjecture.

The only worth while opinion about the future is one upon which a man would himself act. Were I to buy a home in any place where furnace oil is customarily delivered by oil companies, I would carefully avoid poor oil burners and would install the best oil burner sold in the neighborhood by a reliable company guaranteeing service. But I would have certain qualifications in mind. I would hope, but not expect, that furnace oil would be sold forever for a price which, from a strictly B.t.u. basis, would be on an equality with coal.

The relative prices of soft and hard coal furnish some criterion. Soft coal in most parts of the country is the cheapest source of domestic heat, and therefore most commonly used. Yet in those regions, hundreds of thousands of consumers pay twice or three times as much on a B.t.u. basis for hard coal. Its superiority justifies the price. And the price determines the quantity which can profitably be produced. If the consumer were willing to pay higher prices, more hard coal would be produced. If he should conclude that present prices are too high, less hard coal would be produced. The superiority of hard coal over soft coal is reflected in the price which the consumer is willing to pay. The production and consumption are limited by the superiority of use determined by price.

Consumer is Arbiter

On the question of quantity, the consumer, and the consumer alone, is the final arbiter. His judgment as to relative superiority settles the matter. Furnace oil is a superior fuel to anthracite. It is also potential gasoline. The qualities which make it superior for house heating are the same which make it potential gasoline. The extent of its use for house heating and for gasoline-making purposes, and this its relative value, will be determined by the consumer.

This superiority of use suggests—going back to the analogy of soft and hard coal prices—that the demand for furnace oil will expand to the point that will gauge that superiority through the medium of price. The problem is not primarily one of "supply," but rather one of economics, running the whole range of costs, economies, and conveniences of coal, petroleum, of motor fuel, and of substitutes therefor.

Nobody can guess a future that is in the hands of the inventors, the scientists, the technicians. Tomorrow is on the lap of the gods. When tomorrow shall have come, what will the organic chemist have done with coal and lignite? What will the engineer and the scientist have done with shale? What will Mr. Kettering, and men like him, have done with the automotive engine? What is the manufacturer of oil-burning apparatus going to do eventually about the cost and efficiency of his equipment? What is the oil producer going to do about oil? Finally, what is the public going to do about all these things? The man wise enough to know all this and many more equally baffling things can tell what the exact future of domestic oil burning and supply will be.

March of Civilization

Whales furnished sperm oil for light. As the lights multiplied, it was feared the whales would disappear. Then kerosene brightened the world. The whales thought themselves safe in the sea. The worry was transferred to kerosene. What would we do when the kerosene lights went out? Next electricity was about to take both kerosene and gas to the execution chair. And yet today the whales are being caught; kerosene rides the seven seas to all countries; gas is everywhere and electricity rivals the northern lights.

Some day someone will write a book about the usefulness of the obsolete. He will sit by the fireplace—abandoned for more useful forms of heat—and by the candle of a by-gone age will tell us that every first-class house should have a fireplace, and every hostess should have more candles than the pioneer could have made in a week with the now discarded candle moulds.

This condition is not peculiar to the oil burner or the oil industry; it inheres in every business.

It seems but a little time since people were sticking small rubber tubes into their ears, listening with wonder to a talking machine. Almost next day, every home was graced with a mahogany cabinet that talked and sang and played. Then came the radio, and it looked as if the talking machine business was headed for the economic bow-wows. And then someone very recently made such improvements in the talking machine that everyone now wants a new one. So there you are!

Case of Automobiles

The automotive industry, by all nineteenth century reasoning, ought to have gone bump long ago. Look back to the advent of the automobile; figure the national income of that date; and then imagine yourself trying to prove that by 1926 20,000,000 automobiles would be operating on the highways of America! You might possibly have satisfied yourself that the national income could support two or three million. But then you would have quit in disgust, exclaiming: "Well, we can't possibly get enough gasoline, so I will revise my figures downward."

The point is that the race has never attempted to solve these problems of the long future every time it has made something, or every time it has bought something. The modern housewife considers herself lucky if the style of the dress or the hat she bought is not changed by the time she gets home with it. Did you ever hear anyone complain in the early days of the automobile because he got a two-lunged Cadillac and then throw it away? No, he got his money's worth for it. People have thrown away their stoves and put in furnaces. They d'd not feel aggrieved; they felt relieved. People buy automobiles, and the paint gets injured or a new model comes out. They trade them in and buy others.

If it were not for the dominating spirit of our times to seize a new thing, pay for it, and use it because it is better, and to have faith in the future, we would have an atrophy in our production, in our inventive genius, and in our industrial progress which would place us in the class with those nations where people have two baths—one by the midwife, the other by the undertaker.

Oil Burner for the Restless

The oil burner is for this restless, ambitious, and prosperous modern man. It is for the man abreast of, and in harmony with the spirit of the times. It is for him who desires comfort first, and is willing to pay for it. It is for the man who buys a good car, iceless refrigerator; who throws away the broom for the vacuum cleaner: it is for the man who has a good sized house, comfortable income, and whose primary thought is what he really gets for his money. In my judgment, that man will be satisfied with a good oil burner, properly serviced, if before he buys it he is clearly informed as to the present economic tendencies bearing on his purchase. And these relate in part to fuel supply. The facts relative thereto give a man reasonable assurance, equal to that which he has when he buys any other utility of comparable cost and of equal convenience.

Our modern fuels are in rocks. The oil producer gets the fuel out, and leaves the rocks behind. The coal producer digs the fuel and the rocks out together. He takes the rocks along. Petroleum, being all fuel, leaves no ashes. Coal, as it contains rocks, leaves ashes behind. The ash problem, in all of its implications, is the essence of the whole

matter. The rockless, the ashless fuel is the modern fuel. Not enough of it is being produced completely to displace the rockful fuel. The question whether one shall use it, and for what purpose, is a matter of economic consideration and good judgment. It may, eventually, cost more to use, and it will be worth more to use.

The ashless fuels burn inside an engine; thus we have automotive transportation,—transportation on wheels directly from a fire in a cylinder—the most revolutionary and important thing in modern times. The ashful fuels burn outside the engine; make steam, and steam does the work. The presence of the ashes requires two operations instead of one. The householder's problem, therefore, is whether he wants to carry in and carry out the ashes when he heats his house.

Always Have Burning Oil

Under present circumstances, the furnace oil for heat in the basement costs less per gallon than gasoline for heat in the car. But the material used in the basement is potential gasoline. The furnace oil contains residues that are not useful in an automotive engine. But by cracking, the refiner can put the gasoline in one pile and the residues in another. Because the relative demand for furnace oil is not now so great as for gasoline, and as furnace oil does not require as great refining expense as gasoline, and is delivered in comparatively large quantities, it now costs less than gasoline. This will probably continue for an indefinite period, but in the future it is probable there will be a closer relationship between the two than there has been in the past.

The whole barrel of oil is liquid fuel for some purpose. An engine of the Diesel type will chew it all up and ask for more. A Diesel engine is too heavy, too complicated for an automobile engine. Therefore, the refiner was up against the problem of making a motor fuel out of the whole barrel of oil. And he has solved it, so that now the depth to which the refiner will cut into the barrel of crude for motor fuel, for furnace oil, and for all other products, will be determined by the consumer's demand. The consumer finally will decide the relative value of the various ashless fuels.

We come, therefore, to the final problem of whether the probable supply of ashless fuels will be so small as to discourage consumption. And here again we come back to the automotive engine. Putting the problem in practical form, it amounts to this:

A householder who has made up his mind that six-cylinder heat in his home means as much to him as six-cylinder transportation ought to be as alarmed about the supply of furnace oil for his oil burner as he is alarmed about the supply of gasoline for his automobile.

Must Expect Fluctuations

The consumer of petroleum and its products, whether for house heating or for automotive operation, must expect fluctuations in price, as he expects them in other commodities. In considering the probable future price of furnace oil, he should bear in mind that owing to its superior utilities he can afford to pay more for it than he has been paying. The expansion in its use and in the use of motor fuels may carry prices to higher levels. It seems apparent that it will unless production costs are greatly reduced. In looking at the whole situation he can gain comfort from the fact that during the last three years gasoline prices were at about the 1913 level, whereas anthracite prices were double what they were in 1913.

In conclusion, the vexed and much debated question what oil should be used for, and what are its superior uses, is one that I do not attempt to pass upon, for it primarily is the consumer's problem. No matter what the oil burner manufacturer does, no matter what the oil producer or refiner does, under our present organization of society the consumer holds in his hands the key to the determination of the economical use of raw materials,—and the economical use of raw materials is conservation.

An economist has said that by price the consumer casts his economic vote.

Consumer Elects Goods

The commodities of the world are candidates. Each has its manifold uses. The consumer by price elects goods to their proper offices. A commodity adapted to being town crier is never elected mayor. Knowing his own mind, and with unerring judgment, the consumer pursues through price the economic initiatives, referendum and recall. He votes every minute. He changes his politics hourly, his mutations are the essence of economic wisdom. Commerce is democracy. And democracy meets each day as it did at Athens. Its constitution, its laws, its legislative and its judicial power are all made, interpreted, and enforced by a single ballot—price.

Of course, if the conditions surrounding the production and consumption of liquid fuels are to be effected by changes in laws, the thing most apparent is that no changes will be made unless they are such as meet with the consumer's approval. The consumer will determine your destiny and ours and the laws, whether economic or legislative, under which you and we shall operate. As near as one can forecast the future, it would seem that the comfort and convenience of oil burning in homes will stay with us in some form as long as people are willing to pay for, and use extensively high-powered automobiles.

Correction

In the March 31, 1926 issue of National Petroleum News, page 127, it was erroneously stated that W. C. Wright had become sales manager in charge of sales for eastern Pennsylvania for R. H. Sayre, Inc., Pittsburgh, Pa. Mr. Wright assumed that position with Correct Measure Co., Rochester, Pa.

Pipelines Soon To Serve West Texas Pools

Staff Special

HOUSTON, April 9.—Reagan County Purchasing Co., the crude oil buying agency of the Marland interests in west Texas, is going ahead with work of providing outlet facilities for the World pool, in northern Crockett county, and the Hurdle district, along the boundary of Crane and Upton counties.

A 6-inch pipe line is about completed from the World pool, roughly 16 miles south of the Big Lake field, to the Kemper tank farm of the Marland interests. Another pipe line connecting the Hurdle district with the Kemper tank farm will be built a distance of about 50 miles across southern Upton and southern Reagan counties.

Both the World and Hurdle districts have approximately a half dozen wells each to their credit, producing from 20 to 250 barrels daily. Additional drilling is being carried forward in both areas.

Humble Pipe Line Co., subsidiary of the Humble Oil & Refining Co., which has the only trunk pipe line out of the general west Texas area in which these fields are located, is proceeding with the previously announced looping of its 8-inch system from Reagan county to Comyn, in Comanche county. When completed this line will provide outlet for 30,000 barrels daily from the Big Lake field and the other nearby pools mentioned.

The Humble's loops include 52 miles of 8-inch between San Angelo and the Kemper tank farm of the Marland interests, where oil taken by the Reagan County Purchasing Co. is turned over to it; 19 miles between San Angelo and Ballinger; and 22 miles between Ballinger and Comyn.

Connection is made at Comyn with the Humble's North Texas pipe line system, which extends southward to the Gulf of Mexico.

TULSA, April 12.—The storage in transit privilege on tubular goods, which has been sought by various Mid-Continent oil organizations for some time, will again be gone into by the Interstate Commerce Commission April 14, at Washington, D. C. The commission has set the case at that date for oral argument. It is styled Case No. 16128, Western Petroleum Refiners association et al., vs. the Frisco railroad, et al. The oil organizations desire to secure a ruling enabling them to store pipe at St. Louis for any period up to a year, shipping it to final destination as needed at through freight rate from the mills. Railroads and pipe manufacturers involved have been opposed to the proposal.

ELIZABETH, N. J—Sure Service Filling Stations, Inc., is building two new service stations here.

Government Study of Oil Recovery Important to Industry

By Lawrence E. Smith

N. P. N. Staff Writer

CLEVELAND, April 10

THE U. S. Bureau of Mines has achieved many important works for the benefit of the oil industry and among them a number of studies that have been of high value to the producer of oil. It has been the mission of its engineers to attack specific problems, find out what oil men were doing on such problems, study the data in the light of established engineering principles and publish a report. Such reports were at once a recital of fact and recommendation.

Confronting the oil producer today as his greatest problem is the recovery of more oil from sands than is possible by usual flowing and pumping methods. This problem the Bureau of Mines has now attacked. At least, the work is planned to be under full swing immediately.

It is no new thing, of course, for the oil producer to attempt to increase his daily production and, hence, his ultimate yield from an oil lease. He has been trying to do that ever since he started to produce oil. But it is within recent years that the full possibilities of the residue reserves became a matter of general concern.

The oil industry is generally acquainted with what is happening in the Bradford-Alleghany district of Pennsylvania and New York states. It also has a fair understanding—speaking of the industry as a body—of what has been done with the method known as the Marietta, or Smith-Dunn process. This is the compressed air process.

Subject of Earlier Report

Both these were discussed as thoroughly as their development would permit in Bureau of Mines Bulletin 148, "Methods for Increasing Recovery from Oil Sands," by J. O. Lewis. This work was done several years ago—the bulletin being published in 1917—and extensions of the methods therein described, as well as origination of one other, have been made. It is at the point where Lewis left off that the Bureau will now begin, so to speak, bringing up to date the work he did.

Considerable research work will be done, principally at the Bartlesville experiment station of the Bureau, much of it of a nature not before done for the industry as a whole. Experiments have been started by I. B. Williams, associate natural gas engineer, on the passage of artificial expulsive agents air, gas, water —through typical sands of the Mid-Continent. Cores will be studied from many of the important oil districts, or several cores from each, and some estimate will be made of the time required for the named agents to pass through. The manner of ascertaining this will be by forcing air, gas and water through the cores. Much work of this kind has been done privately by oil companies but the results are not available to others.

Will Review Older Fields

East of the Mississippi River, Frank Brewster, assistant chief petroleum engineer of the Bureau of Mines, will make first-hand studies of the various fields wherein restoration of pressure has been practiced for a long enough time to yield worth while data. It was in the eastern fields that Mr. Lewis did most of his field work in gathering material for Bulletin 148, as little had been done in the Mid-Continent in rejuvenating old fields at that time.

Valuable as will be the study of methods in use in eastern fields, the work in the Mid-Continent will probably be more timely. Stated another way, the published report of the work, backing up the report on Mid-Continent conditions with the account of how pressure is restored in eastern fields, will be of greater importance to Mid-Continent operators. The story of what has been done in the east has been pretty well circulated among operators east of the Mississippi while the subject is new to the Mid-Continent.

Less than two years ago, except for some limited experiments in Kansas, the use of compressed air as a pressure restorative to oil sands of the Mid-Continent was known only by hearsay and by reading of what had been done in the east. Since that time there has been a remarkable growth of interest. Particularly in the shallow sand territory of northeastern Oklahoma has there been pronounced activity. Prices for old properties rose in accordance with the display of interest in a manner similar to the way they jumped in the Bradford district with the improvement in recent years of the technic of flooding. Some of the large companies—one in particular—have bought extensively of old Bartlesville sand territory because it has been demonstrated that it will yield important results under the compressed air treatment.

Some New Methods

Since the publication of Bulletin 148 another method has come into existence that will warrant space in the forthcoming publication. That is oil mining. Best known of oil mining processes in the United States is the Ranney method which has been demonstrated in Texas.

Still another phase of oil recovery methods is yet to be described and it probably will not call for more than casual attention in the Bureau of Mines study. That is the use of chemicals in conjunction with water drive. It is still in the early experimental stages and besides it has been fostered by the U. S. Geological Survey and will, therefore, be reported upon by that department when sufficient information is at hand to justify a report.

Considering the enormity of the territory where work is yet to be started on more complete extraction of oil through wells which are fast approaching the economic limit on ordinary methods, it is apparent that this is one of the most important studies the Bureau of Mines has undertaken in its history, which has been filled with important studies.

Oil Geologists Will Go To Madrid

Staff Special

TULSA, April 10.—Several well known petroleum geologists have signified their intention of attending the meeting of the International Geological Congress, which will meet in Madrid, Spain, May 24 to 31. Among the 40 or 50 geologists who will represent the U. S. at the meeting, will be a party composed of Sidney Powers, chief geologist of the Amerada Petroleum Corp., and Mrs. Powers; C. R. Thomas, of the Amerada, and his mother; and J. A. MacDonnell, consulting geologist, formerly with the Amerada. This party is scheduled to sail from New York April 24.

The members of the party are planning to make a field trip into Africa just before the meeting, leaving Madrid May 10. After the Congress, they are going to see the salt domes in northeastern Spain, the oil mines in Pechelbronn and the potash mines near Muhlhausen.

Another party, planning to sail a week later, will be composed of W. E. Wrather, consulting geologist, of Dallas, and Mrs. Wrather, and E. H. Sellards, associate director of the Bureau of Economic Geology of Texas, whose headquarters are at Austin. E. De Golyer, president of the Amerada Petroleum Corp., and past president of the American Association of Petroleum Geologists, also will attend the Congress.

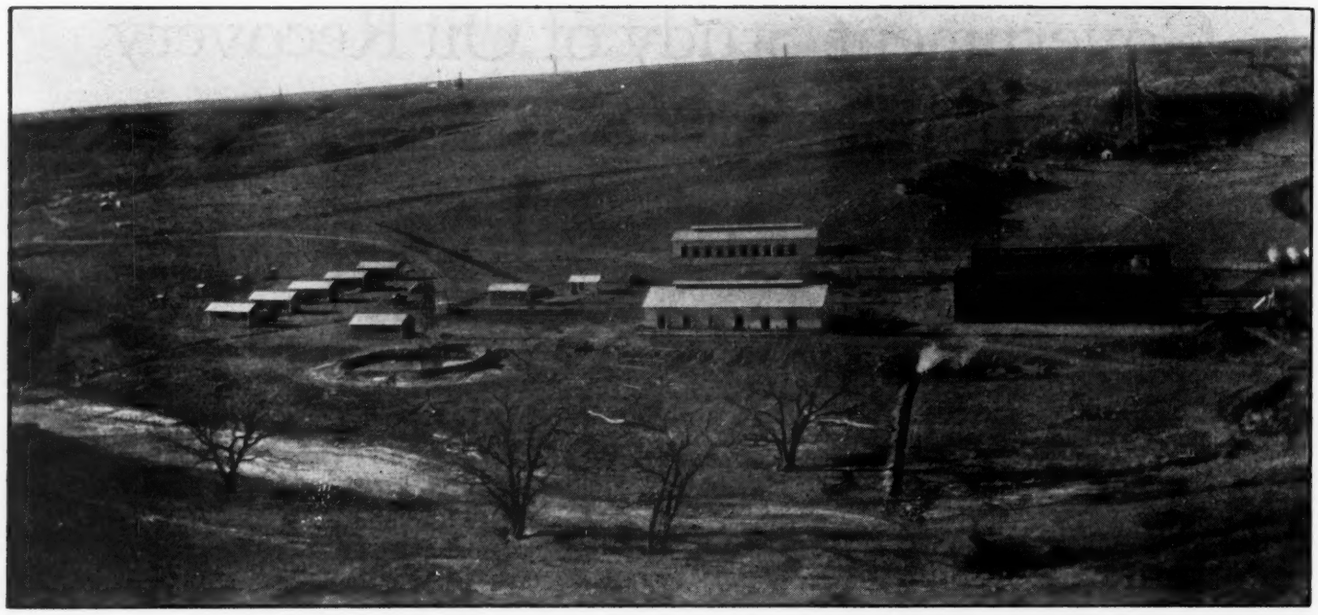


Fig. 1. View of the first natural gasoline plant in the Panhandle of Texas recently purchased by Phillips Petroleum Co.

Phillips Petroleum Doubles Capacity of Plant

TULSA, April 10.

SINCE buying the first natural gasoline plant in the Panhandle of Texas from the American Gasoline Co., Phillips Petroleum Co. has virtually doubled the capacity of the plant. Contracts have been written to take gas from a large number of leases in the vicinity and it may not be many months before it will be necessary to make further additions.

Fig. 1 is a view of the Phillips plant taken just before additions were made to the compressor room. At the time the photograph was taken there were six 80-horsepower Clark engines at the plant. Since then five new Clarks have been put in place. The plant is handling now from 18,000,000 to 20,000,000 cubic feet of gas per day. Part of the gas reaches the plant with virtually enough well pressure to boost it through the absorbers.

The Phillips plant is in Sec. 113 of the I. & G. N. Railroad lands, Block 5, Carson county. It is almost due north of the town of Panhandle. Finished gasoline is pumped through 19 miles of 3 inch line to the loading rack at Panhandle.

The company is now building a second plant in the north end of the field to handle the large gas production which is being developed in that area.

Rex McRoy, who is shown standing on the left in Fig. 2, is superintendent of the No. 1 plant. Beside him is T. K. Willett, his assistant, who will be superintendent of the No. 2 plant when it is ready for operation.

Fig. 2. Rex McRoy, left, superintendent of the Phillips plant with T. K. Willett, who is to be superintendent of the No. 2 plant now being built

New Jobber Adds Truck

MARTINS FERRY, O.—The Ohio Valley Oil Co., with headquarters here, which started in business four months ago distributing Sterling oils made by the Ohio Valley Refining Co., has just added a new truck to its equipment. The truck is equipped with an 850 gallon three-compartment tank. This gives the company three trucks for deliveries.

The company has handled 26 carloads of gasoline, six carloads of motor oil and three carloads of kerosene during the time it has been in business, according to reports.

ELIZABETH, N. J.—The Sure Service Filling Stations, Inc., have purchased the equipment of the Municipal Filling Stations and are operating the stations under their plan, according to Henry A. West, vice president and general manager.

The Farr hydraulic system is being installed at all of the company's stations, which has resulted in increased gasoline sales, according to Mr. West.

Government Wins Suit Against N. Y. Standard

WASHINGTON, April 10.—The United States Court of Claims has rendered judgment against the Standard Transportation Co., the marine subsidiary of the Standard of New York, for $2,338,481 in favor of the United States government.

The claims and counter claims out of which the government obtained that judgment is one of the aftermaths of the war. The government requisitioned the tankers of the Standard for war service and then made the Standard its managing agent for the operation of the ships.

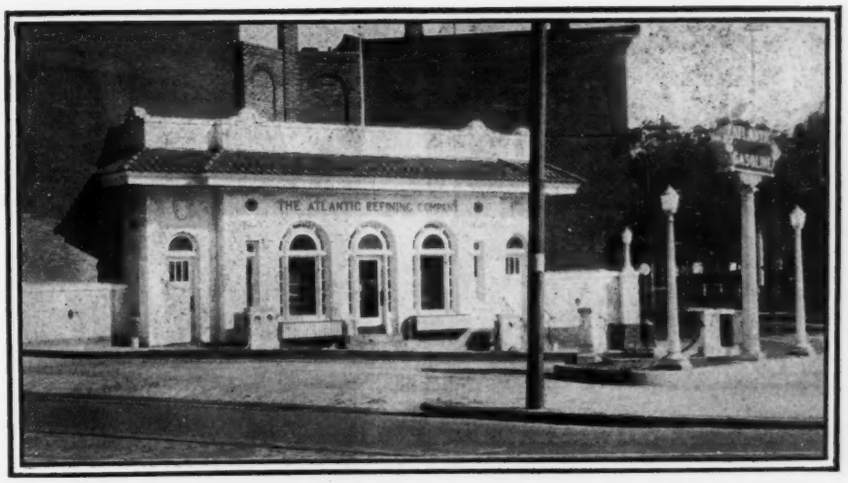
After the ships were returned to the Standard the question was as to how the account stood between it and the government. The Standard refused to accept the "just compensation" offered by the Shipping Board, the government agency in such matters. The government filed a counter claim against the Standard alleging that out of the money taken in by the Standard for the service of the ships it owed the government $5,289,017. According to the claim of the government, the Shipping Board, under its contract with the Standard, was entitled to the money the Standard tankers took in on their return trips to the United States.

The court said the contract was most advantageous to the Standard because under it the Standard was enabled to transport its products to market without the payment of freight and at the same time was insured against loss, the government when it requisitioned the ships assuming all risks.

Advises Rate Refund To Oil Companies

WASHINGTON, April 10.—Alfred S. Knowlton, as Interstate Commerce Commission examiner who heard the testimony in A.B.A. Independent Oil & Gasoline Co. et al. vs. Atchison, Topeka & Santa Fe et al., has proposed that the rate body find the rates on gasoline, kerosene and distillate from Kansas City and from the Oklahoma refinery groups, to destinations in Nebraska west of Lincoln unreasonable and award reparation on shipments between May 24, 1921 and June 29, 1923 to the basis he suggests would have been reasonable for the railroads to have maintained rates upon to those Nebraska destinations.

The cut proposed by him is fairly heavy. The report also covers the complaint of the Manhattan Oil Co., and the interventions which are the same as complaints by the Shaffer Oil & Refining Co., Nicholas Oil Corp., Sinclair Refining Co., White Eagle Oil & Refining Co. and in which they also asked for refund. The Miller Petroleum Co., Western Petroleum Refiners Association, the Omaha Refining Corp. and the Kansas City Refining Co. filed interventions without asking refunds, be-



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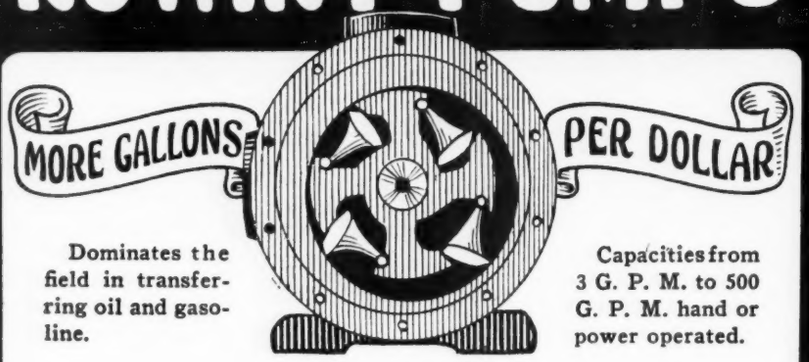

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cause, in this particular proceeding they were interested in rates for the future.

Knowlton said the commission should hold that rates of 24 cents from Kansas City, 29.5 cents from Kansas refinery groups and 35 cents from Oklahoma to the Lincoln group would have been reasonable rates, when extended westerly with the necessary additional amounts to maintain the present grouping and differences in rates between groups in Nebraska as well as proper for the future.

For the purpose of reparation, he said the rates should be increased 10 per cent on shipments prior to July 1, 1922 because on that day rates were cut 10 per cent. Unless the rates mentioned in the preceding paragraph, for reparation purposes, were increased 10 per cent, the oil companies making shipments prior to that day would have refund to them on too low a basis.

He said all the complainants and reparation-seeking interveners, with the exception of C. A. Bull, J. S. Pokorny and the Overton Oil Co., were entitled to refunds.

Bureau Finds Gasoline Nearer Uniform

By Special Correspondent

WASHINGTON, April 10.—A slight average increase in the volatility of motor gasoline is indicated as the result of the thirteenth semi-annual motor gasoline survey recently completed by the Bureau of Mines, Department of Commerce.

The survey again confirmed the tendency toward uniformity in gasoline which has been noted in the past several years. In computing this table, the 10 per cent of gasoline with the lowest end points and the 10 per cent with the highest end points in each survey, were selected, and the average end point computed for each group. The decrease in the differences between these figures has been taken as an index of the trend toward uniformity.

There is apparently a distinct difference between winter and summer gasoline, the gasoline marketed during the winter being more volatile than that sold during the summer.

During the past six years the Bureau of Mines has conducted semi-annual surveys of the gasoline marketed in the United States. The cities in which samples have been collected have been chosen as representative of the more important marketing territories. The cities in which the present survey was conducted are New York, Washington, Pittsburgh, Chicago, New Orleans, St. Louis, San Francisco, Denver, Bartlesville, Okla., and Laramie, Wyo.

An increase in volatility is shown for the average gasolines from Pittsburgh, Chicago, New Orleans, St. Louis, Denver, and Laramie. The averages for New York and San Francisco show little change, while those for Washington and Bartlesville are less volatile than a year ago.

The Hydrogenation of Cracked Gasoline, Results of Some Experiments

By C. C. Wagner
Dacotah Oil Co., Madison, S. D.
Delivered before Petroleum Division, A. C. S.
Tulsa, April 5.

THE chemical modification of motor fuels is undergoing one of the most intense research activities of any industry today. Witness the brilliant achievement in producing tetra ethyl lead and experimental data coming therefrom.

Likewise, the continuous improvement of cracking processes is, in reality, none other than the chemical modification of petroleum. These cracking processes are today so accurately controlled that they may, by every right, be termed one of the chemical fine arts.

Prominent in the above researches is the question of the piston ping, or fuel knock, around which much of the investigation centers. Further, the cause of off color gasoline is not satisfactorily explained to all. Much data extant leads to sulfur and sulfur compounds as the cause, while skimming plant operators are inclined to lay the blame at the door of cracked gasoline.

That unsaturation is one of the results of cracking is agreed. As such then, it offers a field for observation and experiment. From this comes accepted technical evidence to show that a small increase in hydrogen content of a fuel, is a distinct anti-knock. On the other hand, the work of Egloff offers evidence that straight paraffin hydrocarbons are the worst knockers in the gasoline business.

Two Theories Seem Conflicting

Those two hypotheses seem to be diametrically opposite. For if we grant that cracking increases unsaturation, then to hydrogenate this unsaturation would increase the hydrogen content as stipulated as a benefit. But this same hydrogen would also turn an olefin hydrocarbon say, into a paraffin; a convicted knocker.

Regardless of these two opposite conclusions I attempted to reach, at least, some of these unsaturated linkages with hydrogen. The process is essentially that of a modified Sabatier and Senderens. To accomplish this I passed dry hydrogen together with gasoline, in vapor phase, over finely divided nickel. Then all of the properties of the specimen were compared with the same before hydrogenation. The change is illuminating, and conclusion certain that unsaturation is measurably correctable.

A few cases will serve as illustration. The comparison was made with response to H2SO4 (sulfuric acid) and Hanus iodine numbers before and after hydrogenation.

Table 1
Before Hydrogenation

Sample	Percent absorbed H2S04	Hanus I. No. in %
1	6.2	34.1
2	4.5	27.
3	4.	25.6
4	9.3	56.4

The Same Gasolines After Hydrogenation

Sample	Percent absorbed H2S04	Hanus I. No. in %
1	1.5	10.4
2	1.4	7.9
3	1.1	7.4
4	2.3	12.3

These results speak for themselves. Hydrogen may be catalized into the unsaturated linkages of a cracked gasoline. Further, while I have some data showing a possible relation to off color, it is in no sense conclusive.

The apparent variation between the iodine numbers and sulphuric acid may be open to question. The ratio holds closely to between 5½ and 6½. I assumed this variation to be caused by the presence of more than one unsaturated linkage to the molecule. Carrying this fact, of di-or tri-olefine linkages, into theory just a step further. Synthetic rubber or isoprene has those diolefin and iso structures. The polymerization of such compounds into substances of gummy nature seems to me to be within the range of possibility.

It is interesting to note the response of these same gasolines to oxygen. It is reasonable to assume that if hydrogen and iodine may both saturate a cracked gasoline, why not oxygen? To accomplish this I used 200 c. c. H 20 and added 20 c. c. N-5 H2S04 then a half gram sample of gasoline. KMn04 of .1 to .2 N strength is then titrated into the mixture a few drops at a time. After each addition, vigorous shaking is applied.

This is continued until a permanent rich pink color persists in the water layer for 5 minutes. I could find no difference whether the specimen be dissolved in chloroform or not.

To tabulate the same four gasolines with reference to oxygen.

Table 2
Before Hydrogenation

Sample	Percent absorbed by H2S04	Percent Hanus Iodine	Percent Oxygen Absorbed
1	6.2	34.1	2.1
2	4.5	27.	.88
3	4.	25.6	.868
4	9.3	56.4	Indefinite

Observation of this tabulation shows the results to be fairly concordant with iodine absorption with exception of No. 4.

So H2S04 absorption will indicate an approximate Hanus number. The Hanus number is approximately 15 times the oxygen number. This is about the ratio of oxygen to iodine and closely concordant.

Sample No. 4 did not reflect true ratios in either the iodine or oxygen saturations. On looking for a cause for this irregularity No. 4 specimen responded to direct nitration showing aromatic hydrocarbon to be present. With aniline the reaction was positive for napthenes and of course H2S04 indicated olefin linkages, with all likelihood of paraffins. I therefore assumed this complexity of makeup to account, in a measure, for No. 4 not running true to ratio.

It is further an interesting observation that varying degrees of unsaturation also seem to be present in lubricating oils by the same permanganate reaction. This may indicate a natural unsaturation in the crude or it might, indeed, hint at a degree of carelessness in refining processes. The varying degrees of acidity found in crank case drainings have always seemed more or less a puzzle to me.

May I digress here far enough to suggest a theory that may possess some merit? We, of course, believe that oxidation of ethylene structures may break a carbon chain, the products being ketonic or more likely aldehydic. These aldehyde structures should oxidize to acids as result of heat of the operating motor and the presence of oxygen.

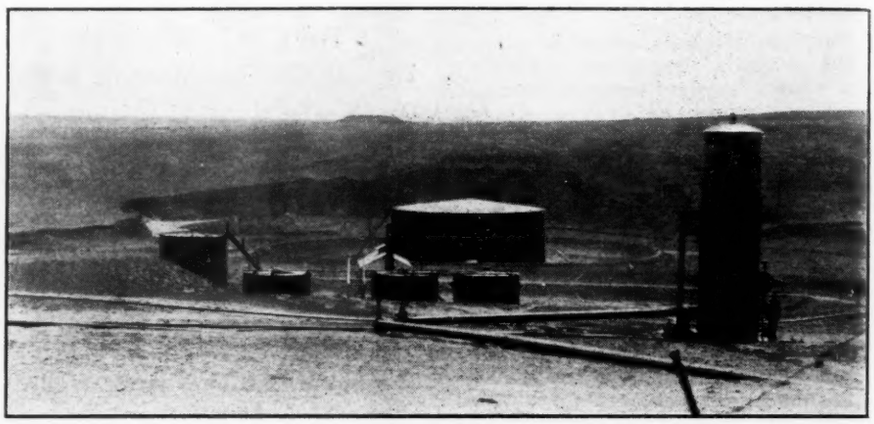
Further, the influence of the bearing metals, having a possible catalytic effect and polymerizing action, would help to account for the many peculiarities found in crank case drainings. That these peculiarities are possible cleavage products of unsaturation in the original oil seems probable.

In conclusion will say that composition is admittedly one function, at least, of the so-called piston ping or fuel knock. What effect or influence the presence of extra hydrogen or oxygen might have remains to be seen. That either of these two elements may be affixed in an unsaturated gasoline is, I believe, quite certain. They really are chemical modifications. Whether they are sufficient modifications to be of great consequence in overcoming the detonation evil is a question I can not answer at this time. That the whole realm of unsaturation of petroleum suggests a fruitful field for research is, however, apparent.

Wilcox is an Active Operator In Panhandle District

AMARILLO, TEX.—H. F. Wilcox Oil & Gas Co. of Tulsa is developing an oil field all by itself on its large holdings in Gray county, located on the Coombs-Worley ranch about 10 miles south and east of Pampa, the county seat. The company is operating under the name of the H. F. Wilcox-Pampa Oil & Gas Co., and has several thousand acres in a solid block, on which it now has three wells making something over 500 barrels daily.

The most recent well, and the one that is making the bulk of the production, the Phoebe Worley No. 2, located in the SEc SW SE of Sec. 62, Block 3, I. & G. N. R. R. lands. This well is in the pay from 2861 to 2893 feet, and is making about 470 barrels daily. The company's No. 3 Phoebe Worley, in the SEc NW SE of 62, is drilling at 325 feet with rotary, and No. 2 Coombs-Worley, in the SWc SE SW of Sec. 59, Block 3, is drilling at 2165 with cable tools. It was standardized at 2138 feet. The company also announced that it would drill immediately two wells, one a quarter-mile west of No. 2 Phoebe Worley and one 660 feet south of it. These wells will be numbered according to which one gets started first.



The only 80,000-barrel tank in the Panhandle field, on the Wilcox lease.

The Wilcox company is building a camp for its employes on a level tract about two miles southeast of the wells now producing. It has two houses erected and has bought three more of the portable type from the Southern Mill & Manufacturing Co. of Tulsa. A. F. Johnson is superintendent in charge of the company's operation, and J. W. Hayes is farm boss. The wells are being drilled with Wilcox company tools on a contract basis with the Wilcox-Pampa subsidiary.

When the first well came in in the summer of 1925, the company erected an 80,000-barrel steel tank, the only one of its capacity in the Panhandle. Oil produced on the property since has been stored in the tank, which now contains about 32,000 barrels. The company has now made a contract with the Sinclair Crude Oil Purchasing Co. to sell its stored oil and current production, and the Sinclair Pipe Line Co. is now stringing a 6-inch line from Pampa to the field. The oil will be shipped in tank cars from a loading rack to be erected at Pampa. It is probable that this crude will move out at the posted Panhandle price already adopted by the Marland and Magnolia interests. The Pampa crude runs about 40 gravity, and is said to be less susceptible to paraffin accumulation than other Panhandle crude.

Left to right, A. F. Johnson and J. W. Hayes of the Wilcox Oil & Gas Co. in charge of operations in Panhandle district.

Use Heated Crude Oil in Boryslaw Wells

CLEVELAND, O., April 10.—In a letter from Oliver V. Szirmai, of Destrehan, La., there is given a description of a method used in Poland for maintenance of production in wells bothered more or less by paraffin trouble.

"Noting several articles in your publication on methods of recovering oil from depleted pools, I think oil producers may be interested in a description of the method successfully used in the Boryslaw pool in Poland.

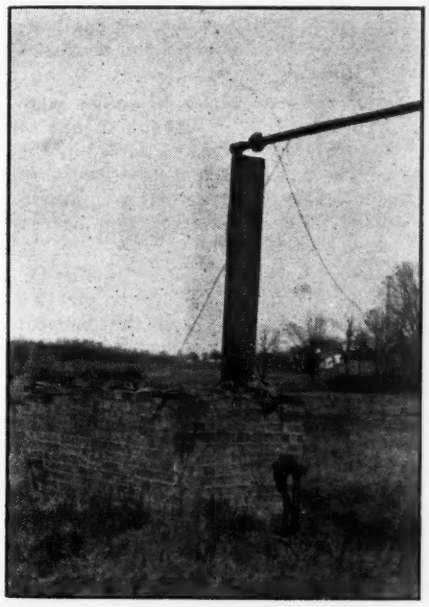
"In this very old pool, situated north of Karpat-Chain, Galicia, there are several wells, which, after a relatively short period of satisfactory production, began to decline rapidly, notwithstanding that the gas pressure and also the daily output of natural gas remained on a high level. This and the additional fact that the gas in these wells yielded about 1.3 gallons of gasoline to every 1000 cubic feet while most of the gas in the pool has a gasoline content of only one gallon to the thousand cubic feet caused the operators to believe that while there is plenty of oil in the sandstone from which

the wells get their production, it is held back because of an accumulation of paraffin so that the gas passes through the paraffin wall while the liquid is retained.

"Operators began experimenting with a form of heat treatment. They ran a 1½ or 2-inch line into the well and through this poured in about 100 barrels of crude oil, heated to about 200° F. This was left standing for a few hours and it was found that a notable increase in the wells' production was obtained—some yielding as much as five times what they had been making before the hot oil was applied, not counting the oil which had been poured in, which was in all instances fully recovered.

"The expense of this method is small, but it is clear that it can be used only where there is not a real exhaustion of a pool and where the decline in production is caused by paraffin accumulation. The method should be used with caution, as in places where the sand is irregular or badly broken the oil poured in could easily be lost."

Brick Vault Protects Heating Coils



Various methods of heating oil tanks are in vogue in producing fields, ranging from the installation of elaborate steam coils in the tank to the simple method of putting the flame under the tank. Here is shown one on a property of the Wiser Oil Co., in Medina county, O. It is a brick oven with a flue made of old casing. Two-inch pipe outlet from the tank is shown entering the end of the vault. This becomes a rather elaborate coil, with right-angle corners, each section of the coil being a little smaller than the one below, so that the general effect is of a four-sided pyramid. The coil then becomes an oil line again and returns to the tank. Heat is applied to the coil in the vault and because it is sheltered, low pressure flame is adequate. Check valve is placed in the line to keep oil from returning to the tank through the outlet line.

Real "Roads" Scholars are Found Scouting the Osage Fields

Staff Special

TULSA, April 10

The Osage Nation, Okla., covers a lot of territory. It is so large, in fact, that major companies in most cases have one of their scouts assigned to cover that territory only—and it is no easy assignment, as any one who has driven over the Osage's oil field roads will agree. The past few years have seen a great improvement in the county's main highways, but it is just as hard as it ever was to get around when it becomes necessary to stray from the beaten path.

During the recent sale of Osage leases at Pawhuska, the county seat and headquarters of the U. S. Indian Agency, all the scouts were on hand, and obligingly posed on the steps of the Duncan Hotel. In the accompanying picture, J. R. Craun, of the Carter Oil Co., is standing in front leaning on the rail. In the rear row, against the wall, from left to right, are W. L. Hudson, Indian Territory Illuminating Oil Co., Jim Ball, Sinclair Crude Oil Purchasing Co., James Dougherty, Prairie Oil & Gas Co., and "Spot" Durant, Marland Oil Co. In front of them, and reading in the same direction, are Chester Imes, Roxana Petroleum Corp., L. W. Broome, Mid-Continent Petroleum Corp., J. M. Cobb, Gypsy Oil Co., Paul E. Buelow, Phillips Petroleum Co., and B. E. Haskins, Mid-Kansas Oil & Gas Co.

Barrel-Siphon Plan Still Much Used

The old-fashioned barrel idea is familiar in many fields but is used rather less in newer districts. It is an easy way of handling water as it comes from the well, separating it from the oil before going into the tank. It is superior to the method drawing off water at bottom of the tank in that oil is not lost as is frequenly the case when the man drawing off the water goes to attend to something else and fails to get back when the oil starts to show.

The barrel idea is merely that of a siphon. Fluid from the well pumps into the top. A straight outlet pipe for oil is set about halfway up the barrel and oil flows into the tank through this. Water outlet pipe runs nearly to bottom of barrel, with outlet at same level as the oil outlet. No oil can flow through the water outlet.

It would scarcely handle wells flowing several hundred barrels but for these barrel a day wells, it will take care of several.

Shallow Wells Yield Oil Shows Found In Half Moon Bay Region

By Paul Wagner
N. P. N. Staff Writer

Article 6 in a Series on Future Oil Production of California

SOUTH of San Francisco, from Half Moon Bay to the lower boundaries of Santa Cruz and Santa Clara counties, attempts have been made to find commercial quantities of petroleum since 1880.

Approximately 25 test wells have been drilled in this California region with only indifferent results. The Moody's Gulch field, near Los Gatos, and the Sargent development, close to Chittenden, both in Santa Clara county, represent most of the encouragement found in prospecting. There have been some showings also in the Half Moon Bay and San Gregario districts, along the Pacific Coast in San Mateo county.

Acreage proved for small wells in this part of California has been figured for the three localized areas as follows:

County-Pool	Acres
San Mateo	
Half Moon Bay & San Gregario	50
Santa Clara	
Moody's Gulch	40
Sargent	40
Total	130

Generally testing operations have been carried to shallow levels by local capital or syndicates, and these not always substantial. In the Sargent ranch area, however, five deep tests have been made without favorable results.

Petroleum Midway Co., Ltd., drilled its No. 1 Lewis, in 10-12S-4E, to 5200 feet in 1924; Shell Co. of California drilled to 4430 feet in No. 1 Lomerias, 4-12S-4E, in 1920; Santa Clara Oil Co. drilled to 3583 feet, in 1-12S-13E, in 1923; Breacita Oil Co. drilled to 3297 feet, in 5-12S-4E, in 1922; and Traders Oil Co. drilled its No. 2 Rasmussen, in 11S-4E, to 2675 feet in 1919.

About seven barrels daily of 47 A. P. I. gravity oil is reported being produced from the newly completed No. 3 well of the Midstate Oil Co., at Half Moon Bay, in the northern part of San Mateo county development; and H. H. McClintock is manufacturing gasoline from crude produced in four small wells in the same territory. He is credited with making 2500 gallons of gasoline in December and he is said to expect to double that yield monthly.

In the San Gregario division of the San Mateo territory, due south of Half Moon Bay, Rollo Ellis and others had a recent showing for a six to 10 barrel well at 1000 feet; and the Elk Hills Pool Oil Co. is exploiting one small well. Similar small wells of La Honda Oilfields Association, Ltd., were recently shut down pending possible sale of acreage under option to Los Angeles parties.

Maximum total yearly production of this region was attained in 1909, when Santa Clara county had a total of 63,780 barrels to its credit. Since that time production has never exceeded 40,000 barrels in any single year, and present yields are but nominal.

Wildcatting Kept Up

Exploratory work has continued intermittently through the last decade, however, because of wildcatters being encouraged by the asphalt deposits and oil seepages which may be traced through the region in a southeasterly direction.

The area tested extends south-southeasterly from Half Moon Bay, in San Mateo county, through the western part of Santa Clara and eastern part of Santa Cruz counties. It parallels the Diablo mountain range, along the west side of which Cretaceous and Tertiary beds are found outcropping from their alluvial cover in the Santa Clara valley proper, east of San Jose and the Mission San Jose.

San Mateo County

The oil showings are of San Mateo county generally in the so-called Purisima beds, which geologists ordinarily consider unfavorable retainers because of the absence of closed structure in this part of the stratigraphic section. It is believed the oil originated in underlying Monterey shale beds and that it found its way into the porous formations above as a result of destructive distillation influenced by the igneous dikes nearby. Such an hypothesis would also account for the gravity of the oil, which averages about 48 degrees A. P. I.

Perhaps a dozen and a half wells have been drilled in that part of San Mateo county from Half Moon Bay to San Gregario, where principal seepages have been mapped along Purisima Creek, Tunitas Creek and Lobitos Creek. Their average depth is a few hundred feet and the most production that any of the wells have ever yielded has been 5 to 15 barrels daily.

Santa Clara Prospects

As investigations are carried in a southeasterly direction into Santa Clara county, the Moody Gulch, Los Gatos and Sargent areas give slightly greater encouragement. This results from the somewhat larger recovery of crude at depths averaging about 1200 feet at Moody Gulch and 1500 feet on the Sargent ranch.

The source of the oil in Santa Clara county probably is, also, the diatomaceous Monterey shale; but its migration into porous beds other than the Purisima is attributed to a fault contact connected with the San Andreas rift through the nearby Diablo mountains. The San Andreas rift marks a major zone of fracturing through California, slippage along which accounts for the earthquakes of the Pacific Coast.

Moody's Gulch Development

The reported yield of old wells in the Moody's Gulch field ranged from 10 to 40 barrels daily, but operations ceased about 1910 and little new work has been done except for unsuccessful prospecting.

Three strata in which oil shows were reported were drilled through in one of several tests east of Los Gatos, in the Santa Clara valley, but the traces of petroleum found there were even smaller than those found in the nearby Moody's Gulch development.

As late as 1921 the Watsonville Oil Co. was operating nine wells yielding about 75 barrels daily in the Sargent ranch field near Chittenden. Recently it was completing a well that looked good for 50 barrels daily, on a few hours test, at 850 feet. There the oil is described as originating in the Monterey and collecting in sandstone beds of the same formation. The gravity of the Sargent ranch oil differs materially, however, from the showing in San Mateo county and at Moody's Gulch. The Sargent ranch oil averages about 18 degrees A. P. I.

Santa Cruz County

Santa Cruz county, which separates Santa Clara from the ocean, has been sharply folded and faulted in places. The Monterey shales are more abundant there also, but there is an almost total lack of overlying formations to act as reservoirs for migratory oil originating in the diatomaceous shale series.

Contra Costa and Alameda counties, which are included with San Mateo, Santa Clara and Santa Cruz counties in province 5 shown on the California outline map accompanying Article 3 of the present series, will be discussed separately by the writer.

The following discussion from the seventh anual report of the state minerologist of California, William Irelan, Jr., is appended because of its having been long out of print and because of the interesting detail it gives of the early his-

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A handy tool for all-around use in the garage. May be used to clean motors, lubricate springs, blow out clogged gas and oil lines and many other tasks that lead to greater profits. Paint shops find it an excellent tool to clean wheels, chassis and inaccessible places. A sturdy tool that will withstand much abuse.

The important thing that Brunner's leadership gives you is an absolutely dependable product—an Air Compressor of the most improved design and manufacture, built to consistently and adequately pump air over a long period of years.

The same manufacturing methods that have given Brunner world-wide dominance in the air compressor field, are followed in the making of all Brunner Pneumatic equipment. You can buy cheaper equipment but not better.

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San Francisco, Cal. Kansas City, Mo. Cincinnati, O. Toronto, Can.

BRUNNER

COUPON

Brunner Mfg. Co.,
Utica, N. Y., Dept. N. P. N.
Please send me

- ☐ Air Compressor catalogue
- ☐ Information regarding valve grinder

Name.....
Address.....

PROFIT

What Is It?

Does it mean merely buying oil at one price and selling it at another? Supplying those who patronize you because they happen to, or because they think you are a fine fellow?

Profit is one of the most interesting and intriguing words in the English language, and to capitalize it you must sell not only yourself and your service, but some real, understandable reasons why the oil you handle gives the best service.

Jobbers handling Humble Oils know all of the reasons why people should buy their oils instead of other brands. They *believe* in these reasons themselves, many of them having been developed through experience. Consequently, their businesses are outstanding and profitable.

The Humble Oil & Refining Company operates no filling stations. Humble Products are sold at wholesale only. We can take care of your requirements in any quantity—in lithographed packages, drums, a carload or a cargo. We control every step in production and manufacture —from the wells to you.

Write, wire or phone for samples and prices.

Humble Oil & Refining Company
Houston, Texas

Producers - Pipe Lines
Refiners - Marketers
"Zero Cold Test Oils"

HUMBLE OIL & REFINING CO.
HUMBLE OILS
HOUSTON, TEXAS

tory of the region under discussion, especially the Moody's Gulch and Sargent areas.

Sargent Tar Springs

"Santa Clara County — About one fourth of a mile westerly from Mr. J. P. Sargent's house, a few miles southwest of Gilroy, there are some tar springs, and a well was sunk in the first part of 1887, about 250 feet deep, with no other result than a little sulphur water, a little gas, and a little very thick, black, tarry oil. The tar issues from a bituminous sandstone, much of which is full of fragments of Turritella and other shells. But immediately north of the well, and within 50 feet of it, is the outcrop of a heavy body of serpentine (decomposed lava). The sand rocks are not well enough exposed to show their strike and dip.

"About two miles farther up Tar Spring creek (barometer at 9 a. m. read 400 feet), there is an area of some three or four acres, which is chiefly covered with asphaltum and very copious seepages of black tar, like those in the Ojai valley. The rocks here seem to be sandstones and breccias, which are not, however, well enough exposed to show their strike and dip, and are generally covered with adobe soil.....There are scattered tar springs for half a mile above here. Mr. Sargent states that about one mile farther up Pescadero creek than the point where we struck it, there is another bunch of tar springs, not so large as the one we saw but accompanied by a deposit of asphaltum which is purer and of better quality.....

Moody's Gulch Wells

"Mr. R. C. McPherson, superintendent and manager of the oil wells in Moody's Gulch, says that he was the first man who ever drilled a successful deep oil well in California and that this well was drilled in Pico Canon, Los Angeles county. Exactly which well it was could not be learned, for some of the wells have changed names; but it was probably one of the three now known as 'Pico No. 1,' 'Pico No. 2,' or 'Pico No. 3.' (Editor's note—This refers to what then were considered deep wells and have no relation to present California deep wells producing from 4000 to 6000 feet in the Los Angeles Basin.)

"Mr. McPherson kindly furnishes the following information concerning the wells in Moody's Gulch, from records kept by him.

"Moody No. 1 struck oil at about 800 feet. No further record of it is available.

"Moody No. 2 was drilled in October, 1879. It started in slate with streaks of rotten sand. At 380 feet, better sand, 25 feet thick. Afterwards ran in slate and shale until striking second sand at 630 feet, 20 feet thick, with oil all through it. After this, sand very shelly with streaks of shale and slate. Struck third sand at 765 feet. Well began to fill up with oil. Drilled her 800 feet Pumped her here 30 barrels per day.

"Moody No. 3 was sunk to a depth of 1080 feet and showed some oil and gas at that depth; but she then caved in and was lost.

"Moody No. 4 was sunk in August and September, 1880. Started in shale and soft sand. At 260 feet, struck first regular sand 30 feet thick. Afterwards streaks of shale and slate until reaching second sand 40 feet thick at depth of 685 feet. Then streaks of slate, shale and shells. Struck 'stray sand' 20 feet thick, dark gray in color, at depth of 980 feet, carrying considerable oil. Believe at this depth in this case she would pump 10 barrels per day. This sand is first class oil-bearing sand carrying pebbles. On sinking 'one screw' (i. e., five feet) into this sand, she began to fill up rapidly and within 24 hours there were 300 feet of oil in the hole. At 1055 feet struck more oil, which seemed to be increasing very rapidly. At 1075 feet she made her first flow. At 1085 feet she flowed 100 barrels per day, flowing nearly all the time. From here to 1095 feet, the sand grew finer and harder. Drilled to 1103 feet, still in the same sand. As the well was flowing in such manner concluded to stop at this depth. Within the first 10 days she flowed 1025 barrels.

"Moody No. 5 started in slate. Struck first sand rock, 20 feet thick, at a depth of 465 feet. After this ran in slate and shale till at depth of 630 feet struck second sand, 10 feet thick. Then ran in shale to 930 feet, where we pumped the third sand,15 feet thick. The well made two flows. Pumped her for a while, but she proved a small well, yielding only about 10 barrels per day. Concluded to drill her deeper. Went through slate all the way to 1425 feet. No change. Shut her down and pumped her at 730 feet pumping 10 barrels per day. No increase by drilling her deeper.

"Moody No. 6 showed a little oil at 1120 feet. Went 1400 feet deep but was never pumped.

"Moody No. 7, drilled in 1880, started in slate. First regular sand, 20 feet thick at 275 feet. Then ran in shale and slate until striking second sand, 50 feet thick at 625 feet. Afterwards in slate, shale and shells. At 950 feet struck 'stray sand' 15 feet thick, with some oil in it. After this very shelly, with shale and streaks of slate. At 1050 feet 15 feet of shells, run into 12 feet of slate. Afterwards shell and sand. More sand with oil and gas. At 1090 feet better sand with more oil. At 1100 feet well began to fill up with oil. At 1125 feet pumped her 30 barrels per day. Afterwards drilled her to 1200 feet and increased her at that depth to 40 barrels.

"Logan No. 1, a 12-inch hole. Drilled in 1880. Started in slate and sand. Struck first sand, 20 feet thick, at 280 feet. Then slate and shales to second sand, 30 feet thick, at 650 feet. Then shale and shells mixed. At 885 feet 'stray sand' with some oil and gas. Afterwards more shells with streaks of sand. At 950 feet, more sand and better. At 980 feet well filling with oil. Two hundred feet of oil in her. At 1000 feet, filled with oil. Put tubing in and pumped 15 barrels per day. Drilled her to 1100 feet and increased her some. Sand all the way."

The minerologist's report points out that the information furnished by Mr. McPherson was not written by him but by some trusted person in his employ; also

that the whole thing is copied almost verbatim from the notes which Mr. McPherson furnished.

With regard to I. L. Thurber's bituminous sand rock quarry, about five miles north, 75 degrees west from Santa Cruz, in Santa Cruz county, the minerologist's report said:

"There is here a body of bituminous rock, 10 feet or so in thickness, underlaid by a moderately coarse grained, clean soft quartz sandstone. The hill rises about 100 feet to the southeast above the quarry, and no one yet knows how heavy the mass of bituminous rock may be. It lies nearly horizontal, but dips slightly to the south. The sand of which this rock is made is chiefly quartz, like that of all the other bituminous rock yet seen in southern California."

Marland Men Moved Up By Derby Purchase

TULSA, April 10.—Purchase by the Marland Refining Co. of the distributing system of the Derby Oil Co. has resulted in the setting up of a new division and a number of promotions in the ranks of Marland men. The new division will be known as the Western division and will have headquarters at Wichita, Kan.

George J. Woods, formerly manager of the central division, is to be manager of the western division. J. R. Hamill, Jr., superintendent of the southwestern division, will succeed Mr. Woods as manager of the central division with headquarters at St. Joseph, Mo.

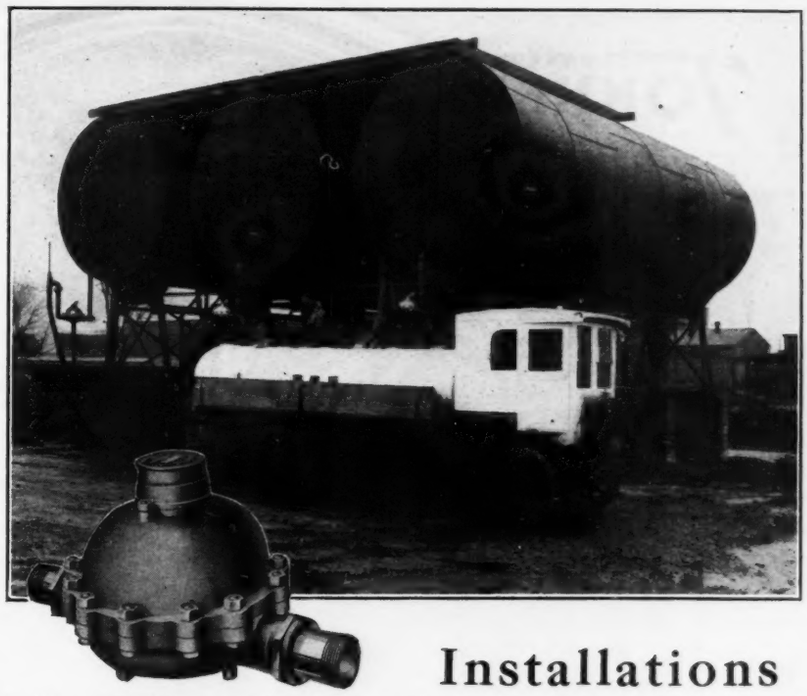
C. R. Blevins, district supervisor of the southwestern division, will be superintendent of the western division. J. W. Murrell, manager of lubricating oil sales of the southwestern division, will take the same position at Wichita.

A. W. Horton, agent at Oklahoma City, will become superintendent of the southwestern division and move his headquarters to Ponca City. R. C. Sowder, Tulsa agent, will become manager of lubricating oil sales for the southwestern division to succeed Mr. Murrell.

Washington's Net Soars

PITTSBURGH, April 10.—Washington Oil Co.'s net profit in 1925 was $90,438 compared with $15,762 in 1924, and net losses of $5,582 in 1923 and $32,262 in 1922. The 1925 net was equivalent to $9.04 a share on the $10 stock. The company is a producer of Pennsylvania crude.

ATHENS, TEX.—Robbins Bros., oil marketers here, have installed three gasoline pumps out of town and expect to install two additional ones within the next 30 days, according to John O. Robbins, president. The company reports enjoying "the labors of good business which we never tire of."



Installations Like This Prove the Accuracy and Reliability of Niagara Meters

Thru these three meters passes all the gasoline delivered by one of the largest oil companies in Western New York. Many million gallons have been measured by them since they were purchased three years ago. Yet when recently inspected, each one was registering within one-quarter of one percent of perfect accuracy!

Such results are not accidental, as other users will testify. Thirty-three years of meter experience has enabled us to build a product on which you can depend every time.

Be sure to send for the catalog.

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REFINING

Reliable information on every phase of modern American refinery practice is to be found in the book prepared by H. S. Bell, and called AMERICAN PETROLEUM REFINING.

Some of the chapter headings are: Refinery Site and General Arrangement; Stills; Cracking; Cold Settling; Compounding; Storage of Oil; Bulk Transportation; and Fire Protection.

The cost of AMERICAN PETROLEUM REFINING is only $5. Just mail your check today to—

National Petroleum News

833 Caxton Building **Cleveland, Ohio**

IT is only natural that the pioneer manufacturer of visible gasoline dispensing equipment should occupy a *leading* position in the industry today.

Victory Visible Gasoline Dispensers are offered in 5 and 10 gallon sizes, hand operated and motor driven.

QUALITY TOKHEIM **Oil Tank & Pump Co.**
Fort Wayne, Ind. U.S.A.

Definitions of Items in Uniform General Balance Sheet of the A. P. I.

THIS is the fourth installment of definitions of items in the tentative general uniform balance sheet prepared by the American Petroleum Institute's committee on uniform methods of oil accounting, of which the institute's tax expert, M. W. Mattison, is general chairman.

The general uniform balance sheet was published in the March 10 issue of National Petroleum News, pages 36 and 37, and installments of definitions have been published in the March 24 and 31, and April 7 issues.

The figures appearing before each item are keys to the various items in the balance sheet and were adopted by the committee to provide a visual method of fixing each item to its place in the general balance sheet.

For example, 4 is the designation of the "fixed capital assets" account in the general balance sheet. The account is subdivided as follows:

4.0—Production department—oil and gas; 4.1—Pipe line department; 4.2—Storage department; 4.3—Refinery department; 4.4—Casinghead gas department; 4.5—Tank car department; 4.6—Marine department; 4.7—Sales (marketing) department; 4.8—Other operating department, and 4.9—Administrative department.

A complete chart of accounts is under preparation by the committee. This chart will cover each of the aforementioned divisions and will, in effect, be the operating accounts from which will be deduced the income or loss for each accounting period. For instance with 4.7, it is the committee's intention this year to prepare a complete chart of accounts covering a marketing organization by which a man engaged only in marketing will have a chart of accounts of his assets on his balance sheet in place of the account 4.7 of the general balance sheet. The rest of the balance sheet may be used by him insofar as he has need. The same case holds true for all other divisions of the fixed assets account.

The tentative form is put out now for criticism by the entire industry. The general balance sheet with possible revisions will be submitted to the institute at its next annual meeting for adoption.

MEMBERS of the American Petroleum Institute accounting committee which assisted M. W. Mattison, the institute's tax expert, in drafting a uniform general balance sheet, are as follows:

New York City Group

Harold Butt, formerly comptroller of Tide Water Oil Co., New York, chairman.

Paul R. Jones, secretary, H. L. Doherty & Co., New York.

F. S. Reitzel, asst. to the president, Sun Oil Co., Philadelphia.

Appalachian Group

Clarence H. Jay, comptroller, Pure Oil Co., Columbus, O., chairman.

Herbert A. Gidney, general auditor, Gulf Oil Corp., Pittsburgh.

E. G. Seubert, vice-president, Standard Oil Co. of Indiana, Chicago.

Oklahoma Group

George F. Winters, Phillips Petroleum Co., Bartlesville, chairman.

H. G. Humphreys, general auditor, Skelly Oil Co., Tulsa.

C. B. Ware, Carter Oil Co., New York.

Texas Group

L. S. Sinclair, Magnolia Petroleum Corp., Dallas, chairman.

A. F. Whiting, treasurer, Louisiana Oil Refg. Corp., Shreveport.

L. H. Atwell, Jr., comptroller, Humble Oil & Refg. Co., Houston.

Rocky Mountain Group

George F. Smith, treasurer, Mutual Oil Co., Denver, chairman.

Pacific Coast Group

Rodney S. Durkee, comptroller, General Petroleum Corp., Los Angeles, chairman.

R. D. Matthews, comptroller, Union Oil Co. of California, Los Angeles.

John H. Tuttle, secretary, Standard Oil Co. of California, San Francisco.

4. FIXED (CAPITAL) ASSETS

This classification shall include lands, leases, rights-of-way, plant and equipment (including construction work in progress), and intangible items such as patents, copyrights, franchises, and goodwill.

The following sub-accounts shall be maintained.

4.0 Production Department—Oil and Gas

4.1 Pipe Line Department
4.2 Storage Department
4.3 Refinery Department
4.4 Casinghead Gas Department
4.5 Tank Car Department
4.6 Marine Department
4.7 Sales (Marketing) Department
4.8 Other Operating Departments
4.9 Administrative Department.

4. FIXED (CAPITAL) ASSETS—4.0 Production Department (Oil and Gas)

This classification shall include fixed assets of the Production Department.

The following sub-accounts shall be maintained:

4.00 Lands and Leases
4.01 Plant and Equipment
4.09 Intangibles

4.0 Production Department (Oil and Gas)—4.00 Lands and Leases

This classification shall include the cost of Production Department Lands and Leases, and any appreciation thereof.

The following sub-accounts shall be maintained:

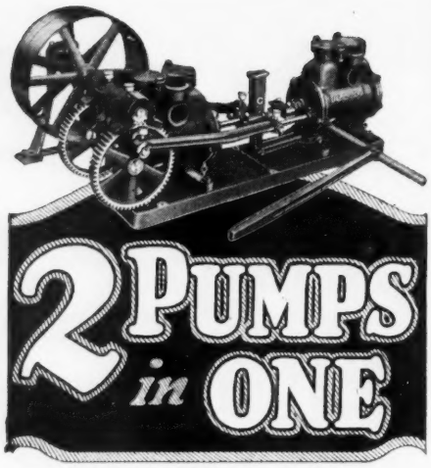
4.000 Oil Lands and Leases—Cost
4.001 Gas Lands and Leases—Cost
4.002 Oil Lands and Leases—Appreciation March 1, 1913
4.003 Gas Lands and Leases—Appreciation March 1, 1913
4.004 Oil Lands and Leases—Discovery
4.005 Gas Lands and Leases—Discovery
4.006 Oil Lands and Leases—Appraisal
4.007 Gas Lands and Leases—Appraisal
4.008 Other Lands and Leases
4.0080 Fee Lands
4.0081 Leases
4.0082 Rights-of-Way.

The titles of these sub-accounts are self-explanatory.

4.0 Production Department (Oil and Gas)—4.01 Plant and Equipment

This classification shall include the cost or appreciated value of buildings, machinery, equipment, and improvements.

Appropriate sub-accounts shall be



- One Gasoline
- One Kerosene

Both are mounted on a one-piece cast iron base with power jack attached. Easy to install. Will operate without vibration or movement on any kind of foundation.

Either pump may be connected to the cross-head by two machine bolts and operated separately or together.

Cast iron base under pumps forms oil pan which is tapped for drain pipe, insuring a safer and cleaner pump house.

Plunger, slow speed, and packed with special cup leathers—a special safety feature.

DEMPSTER

Oil Pumps

Simple in construction, easily installed and easily kept in continuous service by the average operator. Designed for the continuous pumping of kerosene, distillate and gasoline. Made for hand power, engine power, or electric power; belt or gear drive.

Write for Special Oil Pump and Oil Supplies Catalogs

Dempster Mill Mfg. Co.

Main Offices and Factory
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Branches: **Oklahoma City, Okla.**
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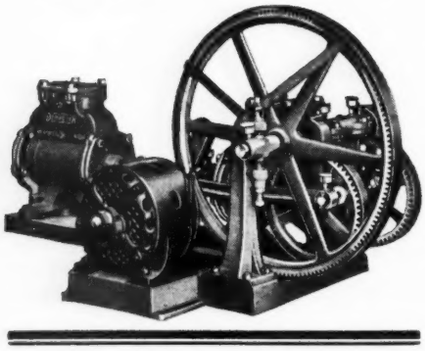
Omaha, Nebr. Sioux Falls, S. D.
Amarillo, Texas

Distributors: **Sharpsville Boiler Works Co. Sharpsville, Pa.**

Builders of satisfactory pumps and pumping equipment for over 40 years.



maintained to meet the particular requirements of each accounting company.

To these sub-accounts shall be charged the cost or appreciated value of such buildings, machinery, equipment and improvements.

To these sub-accounts shall be credited at the time of sale, abandonment, or other disposal, the amounts previously charged.

4.0 Production Department (Oil and Gas)—4.09 Intangibles

This classification shall include intangible items such as patents, copyrights, franchises, and goodwill, specifically applicable to the Production Department.

The following sub-accounts shall be maintained:

4.090 Patents
4.091 Copyrights
4.093 Franchises
4.094 Goodwill.

The titles of these accounts are self-explanatory.

4. FIXED (CAPITAL) ASSETS—4.1 Pipe Line Department, 4.2 Storage Department, 4.3 Refinery Department, 4.4 Casinghead Gas Department, 4.5 Tank Car Department, 4.6 Marine Department, 4.7 Sales (Marketing) Department, 4.8 Other Operating Departments, 4.9 Administrative Department.

To appropriate sub-accounts maintained under each of the above accounts shall be charged the cost or appreciated value of lands, leases, plant and equipment, and intangibles applicable to each department.

To the appropriate sub-accounts shall be credited ,at the time of sale, abandonment, or other disposal, the amounts previously charged.

5. DEFERRED CHARGES

This classification shall include discount on bonds or other securities, organization expense, and other charges applicable to subsequent accounting periods.

The following sub-accounts shall be maintained:

5.0 Discount on Bonds
5.1 Discount on Other Securities
5.2 Organization Expense
5.3 Other Deferred Charges.

5. DEFERRED CHARGES—5.0 Discount on Bonds, 5.1 Discount on Other Securities

To these accounts shall be charged the difference between the par or face value, and the amount realized from the sale of bonds, long-term notes, or other evidences of indebtedness, when the amount realized at time of original disposition is less than par or face value.

To these accounts shall also be charged expense incurred in connection with the issue and sale of such securities.

To these accounts shall be credited, during each accounting period, a proportion of such discount and expenses determined by the life of the security and the amount outstanding.

Accrued interest included in the original sale price of the bonds and other securities, shall be credited to Account 6.30, Accrued Interest Payable.

5. DEFERRED CHARGES—5.2 Organization Expenses

To this account shall be charged expenses incurred in the organization of the accounting company, such as incorporation fees, legal, accounting, and engineering expenses, printing of stock certificates, transfer fees, stamps, and similar expenses.

To this account shall be credited, during the current accounting period, such proportion of organization expenses as will amortize this account over the term of years fixed by the charter of the company, or over such shorter term as may seem proper.

5. DEFERRED CHARGES—5.3 Other Deferred Charges

To this account shall be charged other deferred items such as losses on disposition of capital assets, the inclusion of which would seriously affect income of the current accounting period.

To this account shall be credited, during each accounting period, the amounts allocated to that period.

It is recommended that this account be closed at the end of each fiscal year, unless exceptional circumstances obtain, in which case such deferred expense should be written off over the period determined by the extraordinary conditions involved.

6. CURRENT LIABILITIES

This classification shall include notes, acceptances and accounts payable, and accrued liabilities payable currently or within a reasonable time after the current accounting period.

The following sub-accounts shall be maintained:

6.0 Notes and Acceptances Payable
6.1 Accounts Payable
6.2 Notes and Acceptances Receivable Discounted
6.3 Accrued Liabilities
6.4 Other Current Liabilities.

6. CURRENT LIABILITIES—6.0 Notes and Acceptances Payable

This classification shall include promissory notes, trade acceptances issued to banks, trade creditors, officers, employees and other individuals or companies for money borrowed or accounts payable.

The following sub-accounts shall be maintained:

6.00 Notes Payable
6.01 Trade Acceptances Payable.

6.0 Notes and Acceptances Payable —6.00 Notes Payable

To this account shall be credited promissory notes and renewals issued to banks, trade creditors, and other companies or individuals for money borrowed or accounts payable.

Coupon notes or notes maturing more than one year from date of the balance sheet shall be credited to the appropriate sub-account under Account 9, Long Term Indebtedness.

Interest accrued on notes payable shall be credited to Account 6.30, Accrued Interest Payable.

To this account shall be charged the amounts of payments made for reduction or retirement of such notes, and all renewals in whole or in part.

6.0 Notes and Acceptances Payable —6.01 Trade Acceptances Payable

To this account shall be credited trade acceptances and renewals issued in payment for materials or services.

Interest accrued on trade acceptances shall be credited to Account 6.30, Accrued Interest Payable.

To this account shall be charged the amounts of payments made for reduction or retirement of such acceptances and all renewals in whole or in part.

6. CURRENT LIABILITIES—6.1 Accounts Payable

This classification shall include amounts owed by the accounting company to trade creditors, officers and employees, when such liabilities are not covered by notes or other evidences of indebtedness.

The following sub-accounts shall be maintained:

6.10 Accounts Payable
6.11 Accrued Payroll
6.12 Other Accounts Payable

6.1 Accounts Payable—6.10 Accounts Payable

To this account shall be credited amounts due to trade creditors and to other companies or individuals for materials, products or services.

To this account shall be charged all cash payments and promissory notes or trade acceptances issued to reduce or close such accounts payable.

To this account shall also be charged credit memoranda issued by trade creditors in adjustment of original charges.

6.1 Accounts Payable—6.11 Accrued Payroll

To this account shall be credited amounts due officers and employes for services rendered.

To this account shall be charged all payroll checks issued to officers and employees, and amounts properly transferred to other accounts.

6.1 Accounts Payable—6.12 Other Accounts Payable

To this account shall be credited all accounts payable not specifically provided for in Accounts 6.10 or 6.11.

At the option of the accounting company, a sub-account may be maintained under this classification in which to record unpresented checks.

When preparing balance sheets for publication, credit balances in Account 0.30 Customers' Accounts Receivable, shall be included in this account.

To this account shall be charged all payments made, promissory notes, or acceptances issued, and adjustments made to reduce or close such Accounts Payable.

6. CURRENT LIABILITIES—6.2 Notes and Acceptances Receivable Discounted

This classification shall include acceptances or notes receivable discounted prior to maturity.

Discount on acceptances and notes

THE LOWDRAINER FOR PITS OR RACKS

The Lowdrainer, the very heart of a Successful draining service for either pits or racks, consists of—

A Steel track running full length of drain pit or rack, enabling attendant to instantly adjust catch bucket, regardless of where car stops.

B Steel carriage mounted on ball bearing wheels and equipped with catch bucket and tool table.

C Lifting jack that raises catch bucket to any desired height, thus preventing oil from blowing about. The 5-gallon galvanized bucket is equipped with screen to prevent oil plugs or wrenches falling in and has drain cock in bottom.

D Tool table mounted on ball bearing wheels, providing adjustment to either side of pit or rack. Table contains complete set of socket wrenches for removing the drain plugs from any crankcase, transmission or differential housing.

The entire system can be adapted to any length or width rack or pit.

Nothing to get out of order. If station is moved or abandoned or new racks or pits installed, the Lowdrainer can be salvaged 100%. The cost is so low you can make Lowdrainers standard equipment at all your stations.

The Lowdrainer can also be obtained without steel track, but with adjustable frame that permits carriage to ride on top of pit or rack.

Write now for prices, stating number of Lowdrainers required and length and width of your racks or pits.

210 West Ave. **JOS. H. LOWDEN COMPANY** **Elyria, Ohio**

For Bulk Stations

STANDARD TANKS

For Filling Stations

Why Gamble— When Standard Tanks Are a Proven Product

These factors make Standard Tanks an investment rather than an expense.

Reputation for fair dealing.
20 years experience on building tanks.
Tanks guaranteed bottle tight.
The price is right.

What more could any tank manufacturer offer you?
Send us your inquiry today.

The Standard Boiler and Plate Iron Co.
1800-1830 Penn Avenue **Niles, Ohio**

COMBINATION FILL PIPE *and* STREET BOX

FOR

FILLING STATIONS AND GARAGES

Our Combination Fill Pipe and Street Box is absolutely water-tight, can be locked or sealed, sets flush with the driveway, can be imbedded in concrete and provides for direct attachment of your tank wagon hose. All parts interchangeable.

Heavily constructed for hard everyday service—made in various sizes. Write for further details and prices.

MOORE *and* KLING INC.
Complete Oil Equipment
233 PURCHASE ST.
BOSTON, MASS

receivable discounted shall be charged to the appropriate expense account.

The credit balance in this account shall be shown on the balance sheet as a reduction from Account 0.2 Notes and Acceptances Receivable, Account 0.40 Notes Receivable from Officers and Employes or Account 2.13 Notes Receivable from Affiliated Companies.

The following sub-accounts shall be maintained:

6.20 Acceptances Discounted
6.21 Notes Receivable Discounted

6.2 Notes and Acceptances Receivable Discounted—6.20 Acceptances Receivable Discounted

To this account shall be credited the face value of acceptances receivable discounted prior to maturity.

To this account shall be charged the amount of any payments made by the maker of such acceptances and concurrently credited to Account 0.20, Trade Acceptances Receivable.

To this account shall also be charged the amount of payments made by the accounting company to cover acceptances unpaid at maturity by makers.

6.2 Notes and Acceptances Receivable Discounted—6.21 Notes Receivable Discounted

To this account shall be credited the face value of notes receivable discounted prior to maturity.

To this account shall be charged the amount of any payments made by the maker of such notes and concurrently credited to Account 0.21, Customers' Notes Receivable; Account 0.22, Other Notes Receivable; Account, 0.40, Notes Receivable from Officers and Employees, or Account 2.13, Notes Receivable from Affiliated Companies.

To this account shall also be charged the amount of payments made by the accounting company to cover notes unpaid at maturity by makers.

6. CURRENT LIABILITIES—6.3 Accrued Liabilities

This classification shall include liabilities accrued to the date of the balance sheet, but payable thereafter.

The following sub-accounts shall be maintained:

6.30 Accrued Interest Payable
6.31 Accrued Rentals Payable
6.32 Accrued Taxes Payable
6.33 Accrued Insurance Payable
6.34 Accrued Royalties Payable
6.35 Other Accrued Liabilities.

6.3 Accrued Liabilities—6.30 Accrued Interest Payable

To this account shall be credited interest on bonds, notes, acceptances, and other accounts payable accumulating by the passage of time, but not payable until after the close of the current accounting period, the amounts of which may be exactly calculated.

To this account shall be charged the amounts of payments made, adjustments and transfers to other accounts.

6.3 Accrued Liabilities—6.31 Accrued Rentals Payable

To this account shall be credited rentals payable accumulating by the passage of time, but not payable until after the close of the current accounting period, the amounts of which may be exactly calculated.

To this account shall be charged the amounts of payments made, adjustments and transfers to other accounts.

6.3 Accrued Liabilities—6.32 Accrued Taxes Payably

To this account shall be credited taxes accumulating by the passage of time, but not payable until after the close of the current accounting period, the amounts of which may be exactly calculated.

To this account shall be charged the amounts of payments made, adjustments and transfers to other accounts.

6.3 Accrued Liabilities—6.33 Accrued Insurance Payable

To this account shall be credited insurance premiums accumulating by the passage of time, but not payable until after the close of the current accounting period, the amounts of which may be exactly calculated.

To this account shall be charged the amounts of payments made, adjustments, and transfers to other accounts.

6.3 Accrued Liabilities—6.34 Accrued Royalties Payable

To this account shall be credited royalties payable (except oil royalties payable in kind) accumulating by the passage

GRASSE BROS. OIL COMPANY

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SHEBOYGAN, WISCONSIN

Mar. 12, 1926

Milwaukee Tank Works
Milwaukee, Wis.

Gentlemen:

Attention: Mr. E. A. Bienenstok
President

We felt that it would be of interest to you to know what our results have been in connection with the "Accurate Measure or No Gas" plan. We have had your accurate Measure Pumps in use now for eight months at our various stations, at Sheboygan and Port Washington, and I must say that they have been real business producers, and are very popular with the motoring public to obtain their supplies of gasoline.

We find that many a motorist drives by other Pumps, in order to be served at one of your visible Accurate Measure or No Gas Pumps.

These pumps and plan have added a nice increase in our business, for which we wish to express our appreciation.

Yours truly,

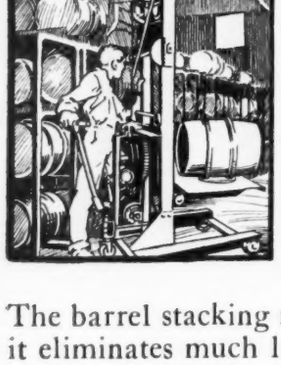
Grasse Bros. Oil Co.

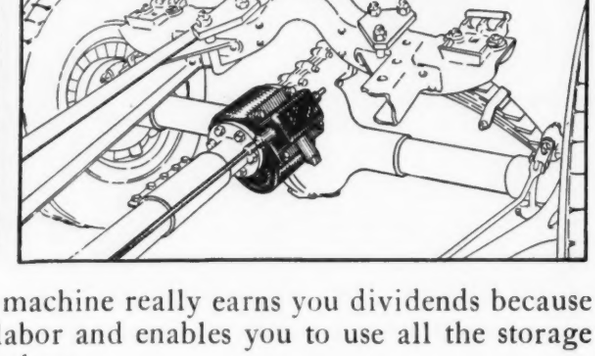
Louis Grasse
Prest

LG/AM

THEY MAKE YOUR EQUIPMENT DO MORE WORK

THE BARREL STACKING MACHINE & **THE FULLER** *AUXILIARY TRANSMISSION* FOR FORD TRUCKS





The barrel stacking machine really earns you dividends because it eliminates much labor and enables you to use all the storage capacity of your warehouse.

The FULLER Auxiliary Transmission likewise really earns you dividends. This unit enables you to use all the carrying capacity of your Ford Trucks, *without overstraining them.*

Installed just ahead of the differential, the FULLER receives the power delivered by the motor, transmission, and drive shaft, and, when in double low, passes it to the wheels, increased in pulling ability by 80 per cent.

Thus the bulk of the pulling strain is carried only by the rear axle, which is heavily overcapacity. The work of all the other driving mechanism is actually lightened.

The FULLER will pay you dividends by helping your trucks carry more, and bigger loads, by cutting your repair bills, and by lengthening the life of each truck. No auxiliary brakes are needed with the FULLER, and its cost is only $60.00, a price made possible only by its ingeniously simple design. Its quality is very high.

Ask your Ford Dealer for particulars.

PRICE $60.00 F. O. B. FACTORY

$5.00 Additional West of the Rockies

FULLER & SONS MFG., Co.

KALAMAZOO MICHIGAN

TRANSMISSION BUILDERS FOR 22 YEARS

The Business of Oil Production

published by Johnson, Huntley and Somers, makes it possible for the beginner in the oil-producing business to obtain a working knowledge of the best methods and of their application.

The man who is experienced will find that it will answer practically any question that may arise on the business side of his enterprise.

The cost of this book is $3.50 and may be obtained by sending your check to—

National Petroleum News, 832 Caxton Bldg., Cleveland, O.

of time, but not payable until after the close of the current accounting period, the amounts of which may be exactly calculated.

To this account shall be charged the amounts of payments made, adjustments, and transfers to other accounts.

6.3 Accrued Liabilities—6.35 Other Accrued Liabilities

To this account shall be credited accrued liabilities not provided for in Accounts 6.30 to 6.34, inclusive, accumulating by the passage of time, but not payable until after the close of the current accounting period, the amounts of which may be exactly calculated.

To this account shall be charged the amounts of payments made, adjustments, and transfers to other accounts.

6. CURRENT LIABILITIES—6.4 Other Current Liabilities

This classification shall include all current liabilities not included in Accounts 6.0 to 6.3, inclusive, such as Dividends Declared, Matured Interest Coupons Unpaid, Unpresented Merchandise Coupons, and other current liabilities.

The following sub-accounts shall be maintained:

6.40 Dividends Declared

6.41 Matured Interest Coupons Unpaid

6.42 Unpresented Merchandise Coupons

6.43 Other Current Liabilities.

6.4 Other Current Liabilities—6.40 Dividends Payable

To this account shall be credited the amounts of cash dividends declared by formal action of the Board of Directors.

To this account shall be charged the amount of dividends paid in cash.

6.4 Other Current Liabilities—6.41 Matured Interest Coupons Unpaid

To this account shall be credited at maturity interest due on coupon bonds or notes concurrently charged to Account 6.30, Accrued Interest Payable,

To this account shall be charged the amount paid to redeem such coupons.

6.4 Other Current Liabilities—6.42 Unpresented Merchandise Coupons

To this account shall be credited the gross value of merchandise sold to customers.

Where merchandise coupons are sold at a discount, the amount of the discount shall be charged to an appropriate expense account.

To this account shall be charged the gross value of merchandise coupons received in exchange for products or otherwise redeemed or canceled.

6.4 Other Current Liabilities—6.43 Other Current Liabilities

To this account shall be credited current liabilities of any character not included in Accounts 6.00 to 6.42, inclusive.

To this account shall be charged the amount of payments made to reduce or liquidate such liabilities, adjustments, or transfers to other accounts.

Oil Mining Company Arranges To Do Consulting Work

Leo Ranney

NEW YORK, April 12

IT has been announced that Leo Ranney has assumed the presidency of the Ranney Oil Mining Co., which came into being as an engineering and geological organization devoted to technical problems of recovering oil by mining. Mr. Ranney is the originator of a process of mining oil, substantial interest in which is held by the Standard Oil Co. of New Jersey. The address of the Ranney company is No. 26 Broadway.

Associated with Mr. Ranney in the company in the capacity of chief mining engineer is Charles F. Jackson, who recently returned from several years of service with the Cyprus Mines Corp. He is an authority on the ventilation of mines.

Mr. Ranney is the middle one of seven sons of Mr. and Mrs. W. A. Ranney, now living at Waterloo, Iowa. He was graduated from Iowa State College, Cedar Falls, and from Northwestern University in 1911, receiving a degree in science, and later continued engineering studies in New York. He was a consulting engineer in Chicago and New York until 1917 and served as a special assistant to the Chief of Ordnance, U. S. A., until November. 1919. Mr. Ranney invented the process of mining oil which bears his name. He was a consulting engineer in New York from 1919 until the end of 1922, and during 1923, 1924 and 1925 installed and operated the demonstration oil mine in Jack county, Texas. He is a member of the American Institute of Mining and Metallurgical Engineers, the Phi Beta Kappa Society and the American Society of Mechanical Engineers.

Charles F. Jackson, chief mining engineer of the Ranney Oil Mining Co., is one of the prominent mining engineers of the United States. He was born in Minneapolis and was educated in the public schools and at the State University, graduating from the School of Mines in 1907, later pursuing additional geologic studies there.

Mr. Jackson's experience has been exceptionally well rounded, covering activity above and below ground in iron, copper, bituminous and anthracite mines, as miner, surveyor, assayer, shift-boss, superintendent of underground transportation, chief inspector, construction engineer, chief mining engineer and general superintendent. His employers have been the Pickands, Mather Co., Arthur Iron Mining Co., Ray Consolidated Copper Co., and the Old Dominion Copper Mining Company.

In 1917 Mr. Jackson became chief mining engineer, consulting engineering department, of the M. A. Hanna Co. of Cleveland and had charge of shaft sinking and tunneling on a large scale in Pennsylvania, Ohio, West Virginia, Michigan and Minnesota. From 1923 until recently Mr. Jackson was superintendent for the Cyprus Mines Corp. of their cupriferous pyrites mines on the Island of Cyprus in the Mediterranean. In that position he solved one of the most difficult problems in mine ventilation that the whole industry has had to meet, and which up to that time had baffled the owners.

The new company is organized to render professional service to those producers who may be interested in the mining of oil and those who desire further information about the Ranney Process.

Some oil fields are better adapted for mining than others and one of the functions of the new company is to consult with operators to determine whether any particular property would justify a thorough investigation of its adaptability to oil mining. In cases where it is found that conditions are suitable for mining, the company is prepared to proceed with the operators in a thorough study of the properties in question to determine the cost of the installation of an oil mine, the length of time required for such development and the estimated recovery by that method.

While the executive offices of the Ranney Oil Mining Co. have been located in New York, operating offices will be established as required in centers of field activity.

Charles F. Jackson

Aggers and Associates Drill Gas Well

Staff Special

AMARILLO, April 9.—Harry D. Aggers, formerly field superintendent of the Eastern Oil Co., joined the throng of Panhandle visitors recently and spent several days looking over the various producing fields. Mr. Aggers and his associates, one of whom is D. C. Morrison, also with the Eastern Oil Co. before its dissolution, are drilling a well in northeastern New Mexico. They are operating under the name of the Brook-Yetter Drilling Co., of Okmulgee.

The well is located in the NE of 34-23-12, Mora county, on the Fernandez ranch. At late reports it was on top of the Dakota at 798 feet and making about one million feet of gas. The first gas showing was had from 780 to 782 and the second at 798, each showing being good for about half a million feet. According to Mr. Aggers, the "offset" well, which is 67 miles away, had the Dakota at about the same depth and was completed as an oil well.

Mr. Aggers was formerly with the U. S. Bureau of Mines, and for a number of years thereafter was an oil and gas inspector for the government in the Osage. He makes his home in Tulsa, but has been there only once since last November.

DEARBORN, MICH.—J. M. Ragle and R. C. Ragle, oil marketers here, have just incorporated for $60,000. R. C. Ragle is president and J. M. Ragle, secretary and treasurer.

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VISCOSITY	@ 100	COLOR
100	"	2 to 2½
150	"	2 to 2½
200	"	2 to 2½
300	"	2½ to 2½+
500	"	2½ to 2½+
750	"	2½ to 2½+
1200	"	3½
1500	"	3¾
2000	"	4

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A consistency of Quality

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Deepwater Oil Refineries

The Independent Jobber's Refiner HOUSTON-TEXAS

Anti-Knock Properties of Smackover Gasoline Produced by Cracking

By Gustav Egloff
and
Jacque C. Morrell
Research Laboratories
Universal Oil Products Co.

Delivered Before Petroleum Division, A. C. S., Tulsa, April 6

THE cracking of Smackover oils produces a high anti-knock motor fuel having characteristics which will allow operation of an automotive engine of much higher compression value than is now being used. Actual motor tests on Smackover cracked gasoline in automotive engines show that it is equivalent to a motor fuel of 40 per cent of benzol in admixture with paraffin hydrocarbons.

Smackover crude is readily converted under reasonable temperature and pressure conditions into high yields of cracked gasoline, having properties that will operate satisfactorily an automotive engine of 120 pounds compression pressure.

The crude oil field of Smackover is one of the most remarkable in the world, for it is consistently producing over 150,000 barrels a day. The present production of Smackover oil runs over 50 million barrels a year. This quantity of oil can be readily converted into approximately 50 per cent of cracked gasoline, which would be a material factor in supplying the requirements of high compression motors.

In a number of plants of the United States, Smackover heavy crude oil containing emulsified water, and Smackover topped crude are being cracked on a commercial scale.

Cracking of Smackover Oil

The conversion of heavy Smackover oil is carried out in standard Dubbs cracking units with daily throughput of from 800 to 1400 barrels a day, producing high anti-knock motor fuel thereby. The following tabulation shows results obtained by cracking Smackover topped crude oil under commercial conditions.

The cracking plant consists of a continuous heating coil connected with a 10' x 30' reaction chamber, which was in turn connected to a dephlegmating water condenser and receiver. At the bottom of the dephlegmating device there is a hot oil pump inserted for the return of the reflux condensate to the heating coil. The cracking reaction is conducted under a temperature condition of the liquid of approximately 860° F and 200 pounds pressure. The throughput per unit ranges from 800 to 1400 barrels a day, which amount is dependent upon the type products desired. When it is desired to operate for high yields of anti-knock gasoline the lower throughputs per day are used. When the operation of the process calls for high grade fuel oil from Smackover crude the high rates of throughput are utilized for lower yields of gasoline.

Special methods of treating have been devised for the pressure distillate oil resulting from the cracking of Smackover crude. The following method is being used on a commercial scale with success in producing a water-white,

Table 1—Smackover Topped Crude

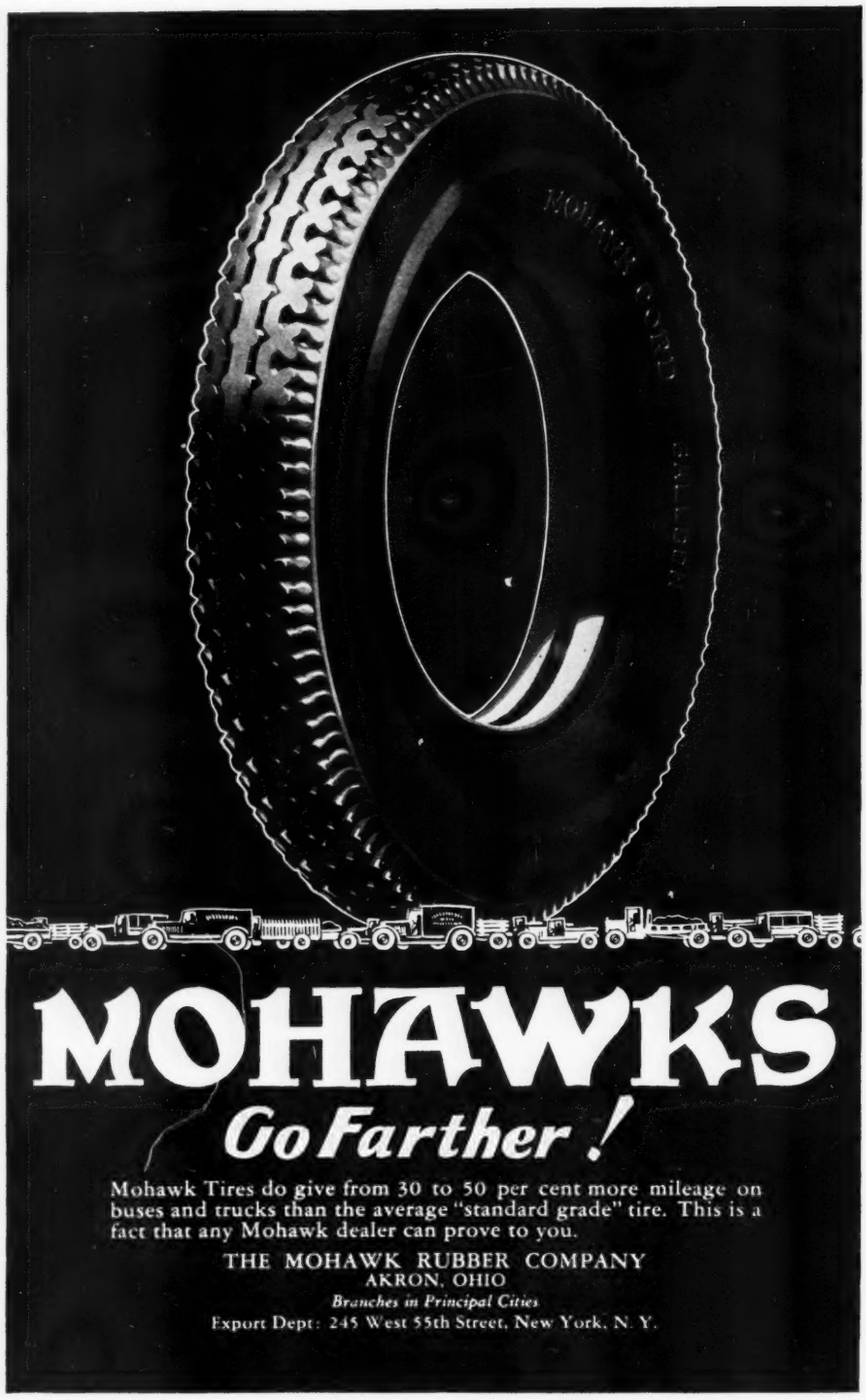
Results on Cracking **HEAVY SMACKOVER TOPPED CRUDE** in a unit requipped with Reflux Pump and Single 10' x 30' reaction Chamber.				
Pressure Lbs.	180	180	180	180
Hours Fire to Stream	7	6	6	6
Hours on Stream	61	73	56	79
Hours Cleaning	20	18	25	
Complete Cycle	88	97	87	
CHARGING STOCK	**Heavy Smackover Topped Crude**			
Be. Gr.	18.0	17.8	17.9	17.9
Total Bbls. by Gauge	2129	2743	2095	2801
Bbls. per day on Stream	839	902	899	851
RESULTS OF CRACKING				
Press. Dist. Total Bbls.	1368	1679	1374	1838
A. P. I. Gravity	51.7	51.2	52	51.8
% Raw Oil	64.3	61.2	65.6	65.6
Residuum Total Bbls.	213	274	210	280
% Raw Oil	10.0	10.0	10.0	10.0
Unc. Gas and Coke, Total Bbls.	548	790	511	682
% Raw Oil	25.7	28.8	24.4	24.4
Coke—Tons Produced	45	61	50.5	65
Lbs. per Bbl. of Raw Oil	42.3	44.6	48.2	46.4
FUEL CONSUMPTION	**Natural and Unc. Gas—Not measured**			
RESULTS DISTILLING P. D. GASOLINE—430 Lab. Cut				
Total Bbls.	1109	1343	1075	1413
Bbls. per Day on Stream	437	442	461	429
% Raw Oil	52.1	48.9	51.3	50.4
% Press. Dist.	81.0	79.9	78.3	76.9
I. B. P.—E. P.	106–435	106–436	104–436	104–436
Be. Gr.	53.1	53.0	53.6	53.5
GAS OIL (P. D. BOTTOMS)				
Total Bbls.	176	243	223	328
% Raw Oil	8.3	8.9	10.7	11.7
% Press. Dist.	12.9	14.5	16.2	17.8
DIST. LOSS				
Total Bbls.	83	94	76	97
% Raw Oil	3.9	3.4	3.6	3.5
% Press. Dist.	6.1	5.6	5.5	5.3

Table 2—Character of Treated Gasoline

	Charging Stock	Pressure Distillate (Treated)	Gasoline	Pressure Distillate Bottoms
A. P. I. Gravity	17.0	49.8	54.6	27.6
I. B. P.	465 °F	68 °F	101 °F	430 °F
10%	565	142	160	453
20%	640	198	203	461
30%	712	246	235	469
40%	742	290	264	473
50%	754	330	298	480
60%	764	366	321	491
70%	762	400	347	507
80%	750	435	369	528
90%			402	575
End Point			438	660
Coke by weight	8.7%			

Table 3—Chemical Analysis of Cracked Gasoline from Smackover Heavy Oil

Source and Type of Gasoline	Unsaturated Hydrocarbons	Aromatic Hydrocarbons	Naphthene Hydrocarbons	Paraffin Hydrocarbons	Aromatic Hydrocarbon Equivalent	Ricardo Compression Ratio
Cracked Gasoline from Topped Smackover Crude	14.7	28.5	21.2	36.6	36.7	5.95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Complete Wax Plants designed and built
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BETHLEHEM, PA.
GENERAL SALES OFFICES: 25 BROADWAY, NEW YORK CITY

good odor, negative corrosion and stable gasoline.

The pressure distillate is first water washed and given a light sodium hydroxide treat. This removes the hydrogen sulfide present. The cracked distillate is then treated with plumbite solution and the heavy sludge, after settling, is drawn off. The cracked distillate is then given a water wash, the water withdrawn and the distillate treated with one pound of sulphuric acid per barrel of oil.

The main acid treat consisting of six pounds of sulphuric acid per barrel is then applied after drawing the sludge from the previous treat. The second acid sludge is drawn, the oil water washed and then distilled in the presence of steam to produce gasoline distillate therefrom. The gasoline distillate is treated to improve the odor with a dilute solution of sodium hydroxide.

Distillation analyses of the charging stock, pressure distillate, gasoline and pressure distillate bottoms produced by the cracking reaction were made, the results of which are tabulated in table two, preceeding page.

It is well known that the aromatic hydrocarbons present in gasoline are the highest anti-knock components, the naphthene and unsaturated hydrocarbons to a lesser extent, whereas the paraffin hydrocarbons are high knocking in an automotive engine. Smackover cracked gasoline contains high percentages of these valuable anti-knock hydrocarbon groups.

The chemical data as to the percentage of the various hydrocarbon constituents in the cracked gasoline is tabulated as shown in table 3, preceeding page.

Actual motor tests by the use of a four cylinder Hupmobile engine and a single cylinder test engine showed conclusively that the cracked gasoline derived from the cracking of Smackover heavy oil, produced a motor fuel equivalent to having added 40 per cent benzol to a mixture of paraffin hydrocarbons.

Texhoma Forms Separate Pipeline Company

Staff Special

HOUSTON, April 10.—Continental Oil Co., of Denver, which early in the present year bought control of the Texhoma Oil & Refining Co., at Wichita Falls, has now incorporated its pipe line department as a separate unit known as the Texhoma Pipeline Co. It is said the pipe line now will become a common carrier. The Texhoma has about 350 miles of main line and gathering facilities forming a network through the Wichita Falls sand development area of north Texas. It is reported the company is considering the building of a pipe line from its Wichita Falls district refinery to small production owned by the Texhoma in Montague county, but definite decision has not been made in this regard.

Revised Rule Is Issued For Empty Tank Cars

WASHINGTON, April 10.—A revised rule to govern those having to do with rendering unloaded tank cars suitable for hauling by railroads has been put out by the Interstate Commerce Commission, effective June 1.

There has been no change in the general principles governing the matter, but the rule has been made more precise and particular. Unless the one who unloads a tank car obeys the regulations, the railroad company must decline to transport it. The revised regulation or rule, is as follows:

"1050 (j) After a tank car is unloaded, the dome cover must be securely replaced by the use of a bar or wrench; the outlet-valve reducer and outlet-valve cap by the use of a wrench having a handle at least 48 inches long; and the outlet valve cap pipe plugs, heater-coil inlet and outlet-pipe caps (after coil has been thoroughly drained), end plug, and plugs or caps of other openings, by the use of a suitable tool.

"1052. Dome covers, outlet-valve reducers, outlet-valve caps, outlet valve cap pipe plugs, heater-coil inlet and outlet-pipe caps, end plugs, and plugs or caps of other openings, must be securely in their proper places on "empty" tank cars prior to being offered for movement or when transferred to or from connecting lines in interchange."

Equipment Company Opens Tulsa Office

HARVEY, ILL.—A southwestern office at Tulsa, Okla., has been opened by The Buda Co., manufacturers of natural gas and gasoline power units and electric generating sets with headquarters here. A. F. Ochtman, sales engineer of the company, is in charge of the Tulsa office.

Several oil field power units from 50 to 80 h.p. and a 10 KW direct connected lighting plant will be on display as well as heavy duty gas and gasoline engines.

Second in Albany Pool

HOUSTON, April 10.—The Cook ranch area four miles northwest of Albany, Shackleford county, Tex., got its second well when Humble Oil & Refining Co. completed No. 1 Cook for 595 barrels daily at 1345 feet. The first well in the field was completed about six weeks ago by Roeser & Pendleton in partnership with Marland Oil Co. of Texas for maximum production of about 1200 barrels daily.

RODEO, N. M.—Rodeo Garage Co. has just purchased a new two-ton heavy duty speed wagon for deliveries from Rodeo to Douglas, Ariz.

A car of gas oil for sale to farmers and ranch men has just been purchased and unloaded by the company.

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Vented Fill Pipe Cap
4 sizes

Water-tight Fill Pipe Cap

Holes in the cover provide a place for the lock, no matter how tightly the cap may be screwed down.

8 sizes

Air Vents for Underground Tanks
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16 sizes

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Every item in the Des Moines line is carefully designed and accurately made. Large stocks enable us to assure you of same-day shipping service on your order, from our factory or our nearest warehouse.

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Have Your Engineering Department Write for Test Samples

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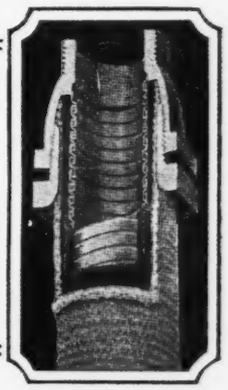

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Only products that are RIGHT could stand this test of time. Rex Products will always be backed by a sensible guarantee that means exactly what it says—"Guaranteed To Give Complete Satisfaction—You to be The Judge." Quality will never be sacrificed for price.

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Write for Bulletins on Any Class of Lube Equipment.

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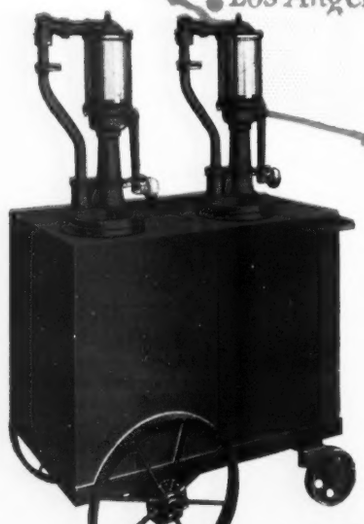
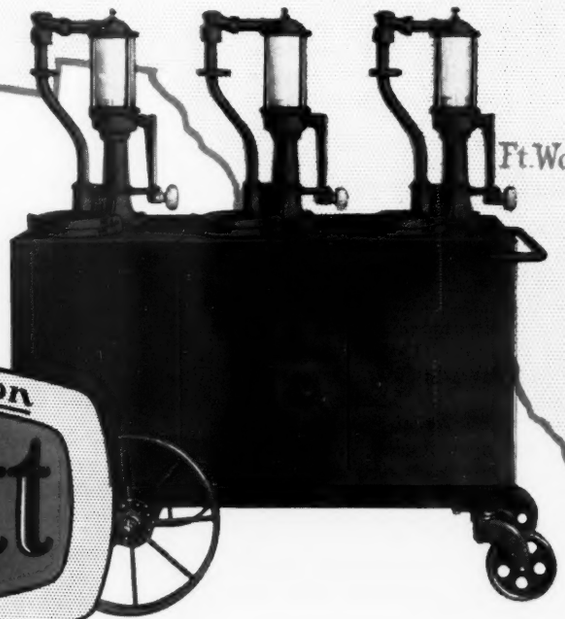


Model 281



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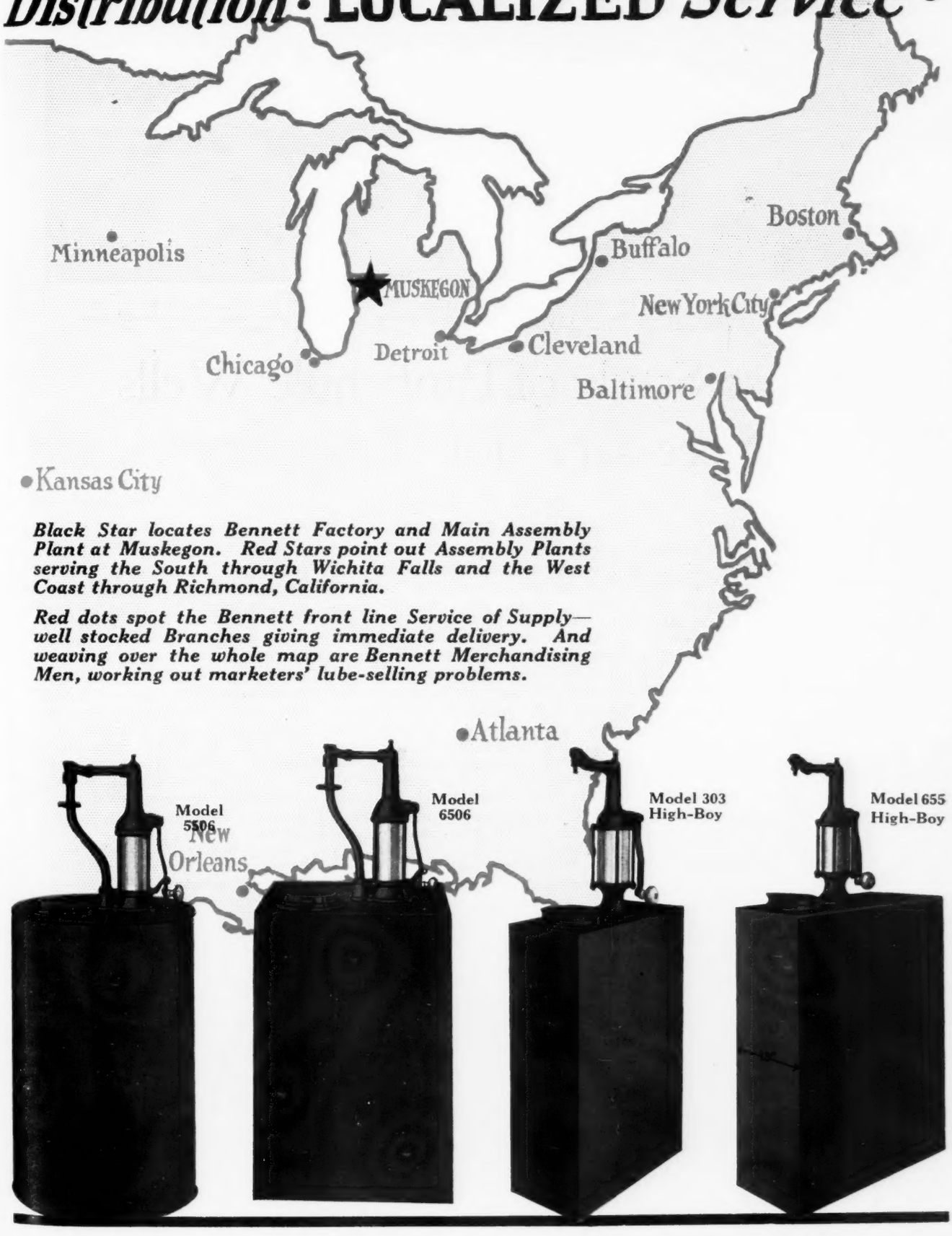
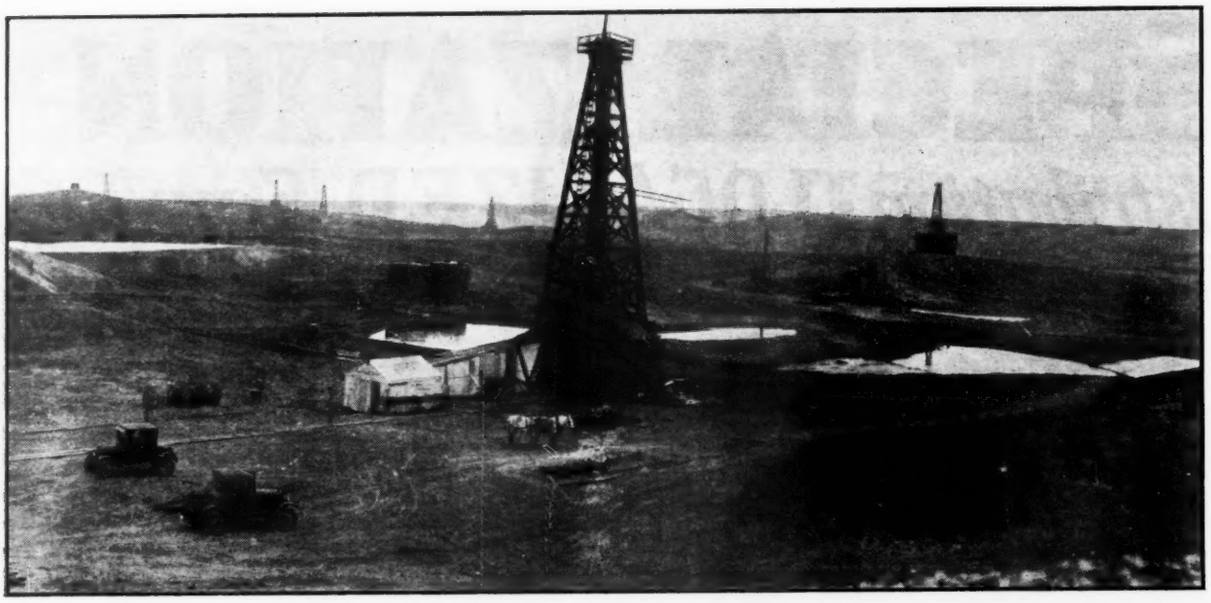


Black Star locates Bennett Factory and Main Assembly Plant at Muskegon. Red Stars point out Assembly Plants serving the South through Wichita Falls and the West Coast through Richmond, California.

Red dots spot the Bennett front line Service of Supply—well stocked Branches giving immediate delivery. And weaving over the whole map are Bennett Merchandising Men, working out marketers' lube-selling problems.



No. 1 View of Dixon Creek Oil Co. property, Hutchinson county, Tex. The well in the foreground is No. 2, which is making between 1200 and 1500 barrels daily. Oil in earthen storage can be seen in three tanks in the middle background. To the right of No. 2 is the wrecked derrick of No. 3, pulled in when running the 10-inch pipe.

Close Study of Panhandle Wells Necessary for Efficiency

By A. F. Hinton

N. P. N. Staff Writer

TULSA, April 10

As development progresses in the Texas Panhandle, where it is possible the country's next major field is to be brought into being during the coming year, operators are realizing more forcibly that the many peculiar conditions entering into operations there render close study of individual wells necessary for profitable operation. The larger companies especially have been busy gathering every particle of available data on drilling methods, well performance and methods used in bringing in and handling of wells and are trying to develop a technic that will give results in the shape of lengthened flowing life and increased yield.

As an example of problems to be solved in bringing in wells successfully, at least two companies have reached the conclusion that no water should be placed in the hole of a Panhandle well after the oil bearing horizon has been reached and they are drilling in their wells with oil in the hole instead of water, if it is necessary to load the hole to hold back gas pressure until casing can be set on top of the oil pay. No water will be placed in these wells at any future time, when cleaning out or doing other work on the well.

or doing other work on the well.

tion is that the oil horizon contains some anhydrites in a form similar to what is known as plaster of paris and that this material, having a tendency to absorb water and form gypsum, goes through a slacking process and tends to plaster up the walls of the hole, mudding off the oil. Another company following the practice of drilling in with oil has an entirely different reason for it. They do not hold so much with the anhydrites theory, but believe that when the hole is loaded with water it is injurious to the oil sand through forcing of water back into the sand. Their idea is that water forced into the oil pay under pressure is not easily removed and that after the oil pay has been thoroughly soaked with water in this way, it is very difficult to get the oil past the water impregnation again. It is their idea that this does not hold true where oil is used in place of water, as it will mix with the oil in the sand and not retard its progress toward the wall of the hole. Both these theories sound reasonable, the latter especially in view of the field's remarkably low rock pressure, and as both led to the same conclusion, it seems to be a good idea to keep water out of the wells in the Panhandle after the oil horizon has been reached.

Back Pressure Fatal

It also is the general opinion among operators that the wells in the Panhandle will not stand the application of the back pressure in an effort to reduce the amount of gas used in expelling the oil. This also is due to the low rock pressure. To get best results, operators say that flow lines should be as large as possible and the well's flow generally as unrestricted as possible. The theory has been advanced that back pressure would be beneficial in these wells, in that by reducing the gas factor it would cut down the amount of expanding, heat-absorbing gas which tends to chill the oil and cause excessive accumulation of paraffin. It is admitted that paraffin deposition lessens as the amount of free gas is reduced but this can be accomplished in other ways than through application of back-pressure, which in Panhandle wells would in all probability cause a cessation of oil flow altogether with the well making nothing but gas.

One company has found that a 500-barrel well in the Panhandle performs most consistently and best when it is making about two million cubic feet of gas. If it makes more than that, the tendency is for the gas to "slip" through the oil without exerting its full expulsive force. This results in a waste of gas and, where gas is much too great in volume, will hold back oil production. The last big gas being found about 50 feet above the oil, this company tries to set its pipe far enough down in the pay to reduce the gas to the amount needed, lowering the pipe if necessary to get the gas down to the approximate ratio of two million feet to 500 barrels of oil.

Another company made an interesting experiment in the regulation of gas flow and got very satisfactory results. In this case, it had a well making only 50 or 60 barrels of oil with about four

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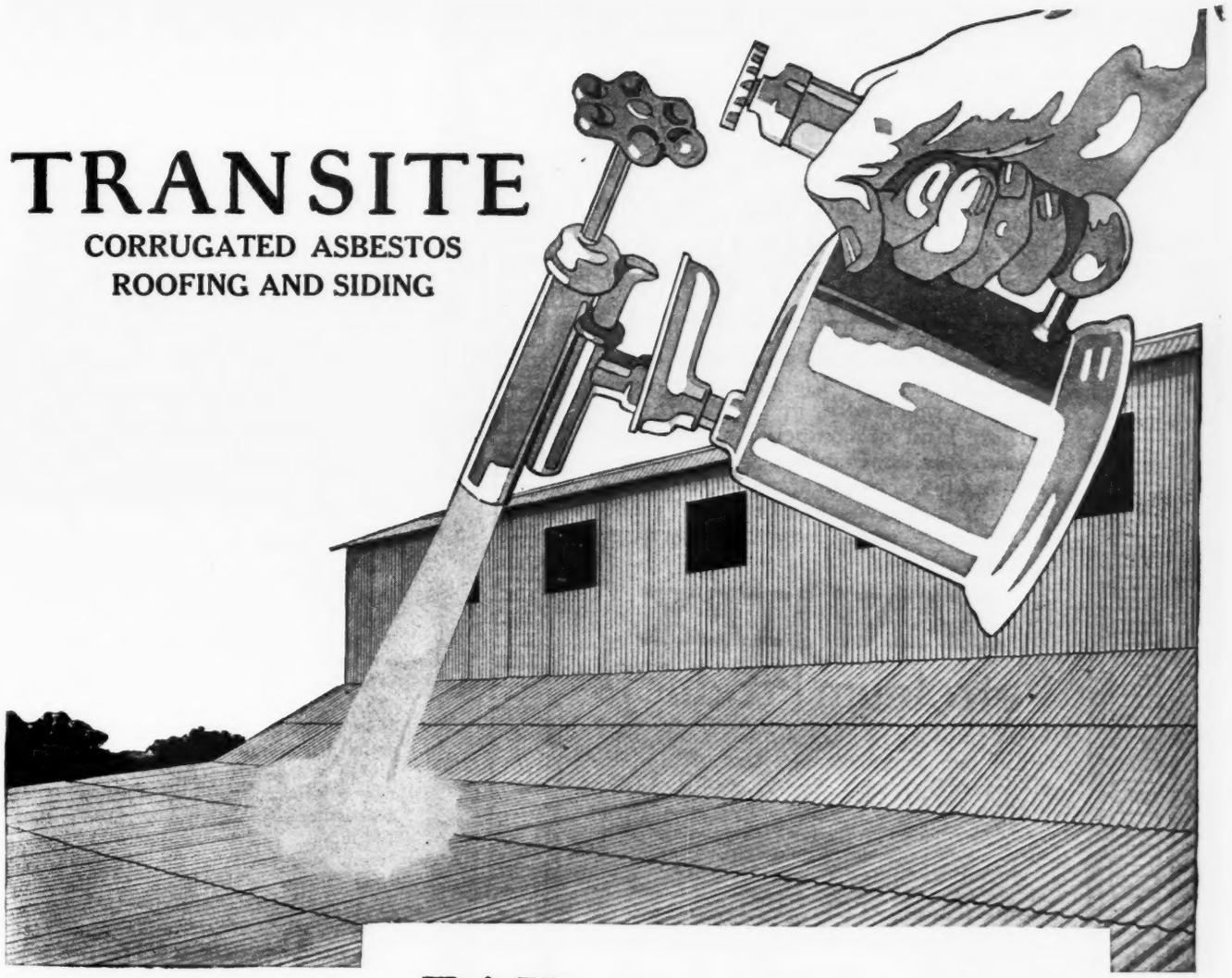

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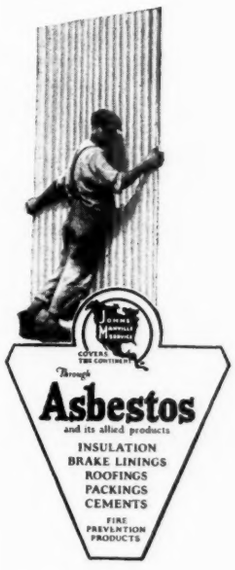

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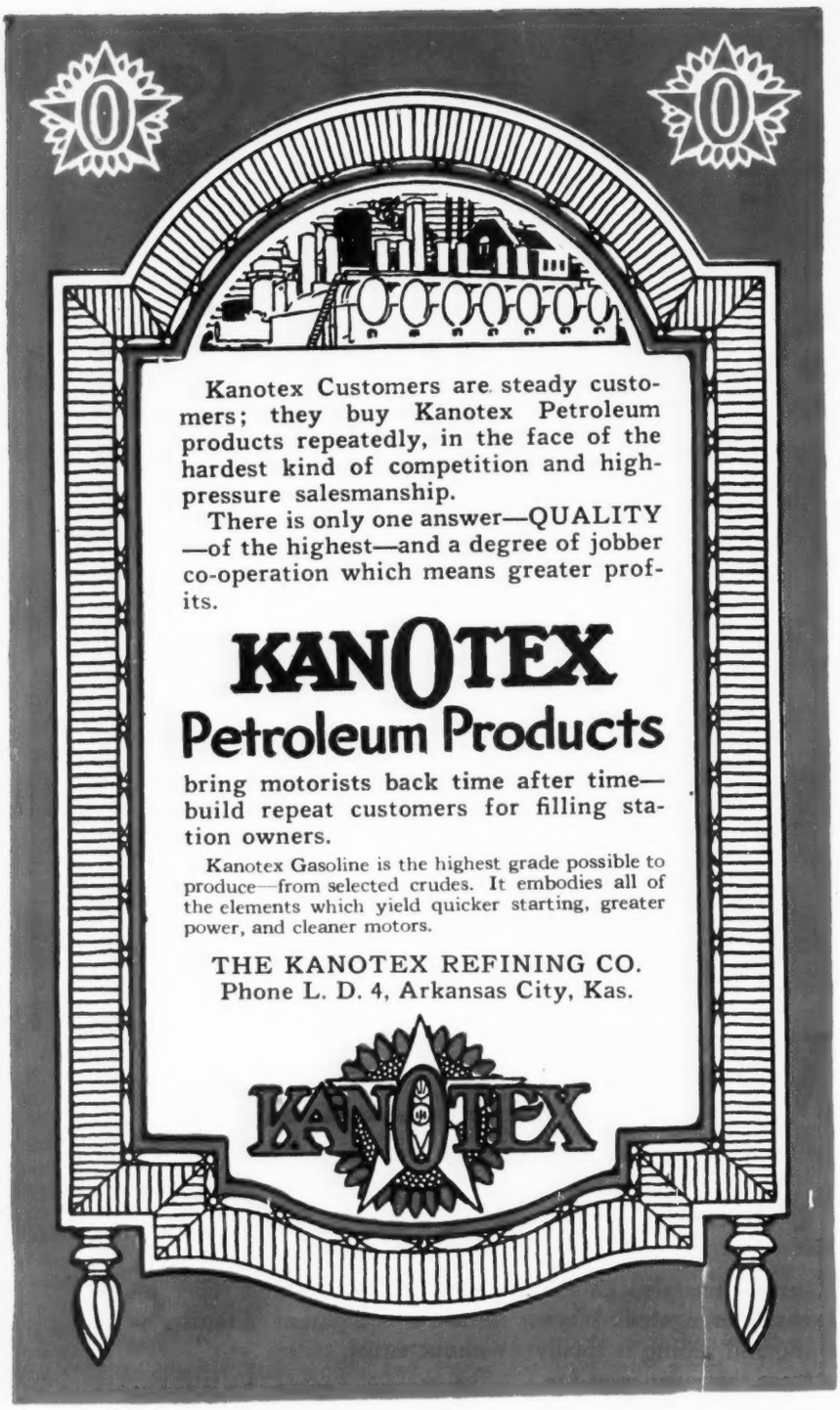
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National Petroleum News

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million feet of gas, and it was believed that if the oil pay horizon could be relieved of the effect of the direct gas flow, the well's production could be increased. Accordingly, a liner was set down on bottom, and extending about 250 feet up in the hole above the gas. This liner was perforated at the oil sand end but was left blank at the top. A packer was then set between the gas and the oil on the outside of the liner. The natural fluid level of the well was about 300 feet, or probably 50 feet above the top of the liner. Thus the oil flowed out of the pay horizon into the perforated liner and sought its natural level without the aid of the gas from above. This gas, shut off from the oil sand by the packer, exerted its force upward and lifted the oil out in a steady flow. The well's production of oil was more than 200 barrels the first day after this installation.

Long Life Indicated

It is said that the rock-pressure in the Panhandle, which is only about half of what would be looked upon as normal, has not declined since the first gas well was drilled back in 1918, and it is remarkable for its regularity, averaging 425 pounds and varying very little from that figure everywhere in the field. If wells are not drilled too close together and if the gas is properly conserved in doing its work of expulsion, it seems reasonable to believe that long-lived production can be expected. Water is found at practically the same level all over the field, this being approximately at sea-level, and as far as has been ascertained, there is no hydrostatic pressure on the oil at all. This would indicate that there is little likelihood of the wells going to water as their oil production drops off. The tendency will be for wells to go to gas, instead, as pointed out by C. Max Bauer, of the Midwest Exploration Co., in his paper before the Dallas convention of the American Association of Petroleum Geologists.

Magnolia Running Oil

Magnolia Pipe Line Co. was the first of the major companies to get its pipe line from the Carson-Hutchinson county field completed to railroad terminus, it having started to run oil last week. The company laid a 6-inch line from its pump station in Sec. 11, Block Y, Hutchinson county, to Kings Mill, Gray county, something over 30 miles. At Kings Mill it has a tank farm site capable of accommodating 33 tanks, has one 55,000-barrel tank completed and another nearing completion. The company has not announced whether it plans to store crude for the present or ship it out in tank cars. Judging from the direction taken by the line from the field, it appears not unlikely that the Magnolia is considering extending its line on down to connection with its main trunk system when production has reached a point sufficiently large to warrant. This would mean construction of some 220 miles of line. P. J. McNamara, formerly located in Corsicana, Tex., is in

charge of the Magnolia's pipe line activities in the Panhandle.

Marland Oil Co., through its subsidiary, Kay County Gas Co., is laying an 8-inch welded line from its pump station in Sec. 5, Block Y to loading rack at Panhandle, a distance of about 25 miles. This company has the pipe strung all along the line and is using a ditching machine with success. The line is being buried 38 inches, this extreme depth having been decided upon on account of the fact that frost has been known to penetrate 36 inches into the ground in the Panhandle, although the average frost level is about 24 inches. The idea back of this is to keep the oil warm during its trip through the line, thus keeping its paraffin content in suspension. Marland is also using the pipe line of the Plains Pipe Line Co., which has a 4-inch line from the field to Panhandle and is laying a 6-inch line alongside of it.

The Gulf Pipe Line Co. has completed a survey for a pipe line from Gulf Production Co's. production in Carson county to a point on the Ft. Worth & Denver City R. R. at Claude, Armstrong county. This line is about 35 miles long and crosses both the Santa Fe and the Rock Island railroads on its way. The Gulf plans to handle its own production to a loading rack at Claude, shipping it out thence in tank cars. It is also reported to be surveying a line from Claude on to its Electra station, in the Wichita Falls district.

Handling Oil in Pipe Lines

Handling Panhandle crude through pipe lines and in lease tanks presents the problem of keeping the oil warm enough to keep it from congealing so that it will flow freely, as when it does congeal in a line it is a very costly and difficult job to get the line cleaned out. It is almost universal practice in the field for operators to equip their lease tanks with steam coils. This has to be done carefully, for if the oil is heated too quickly or allowed to become too hot it is liable to precipitate its paraffin on coming in contact with a cold pipe line in an exposed point, such as where the line crosses a creek bed and is not buried.

The usual way to heat the oil at pipe line pump stations is to maintain about 12 inches of water over the steam coils, thus heating the oil slowly. A temperature of about 80 degrees seems to be about the best for most efficient handling of the oil, which, if kept moving in the line, can be transported successfully in zero weather. It has been found that it is not a good plan to allow the oil to come into direct contact with the steam lines.

If a pipe line becomes plugged with this paraffin, the only way in which it can be removed is by either cutting the line or unscrewing it and burning out the accumulation. Scrapers have been tried but were unsuccessful. One company had three scrapers lost in its line in an attempt to use them to get rid of paraffin accumulation, and was

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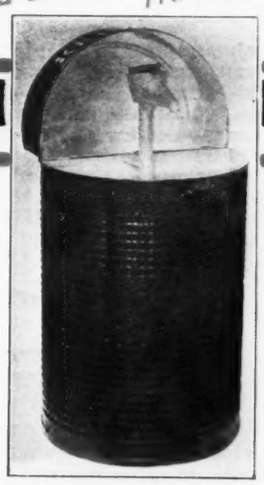

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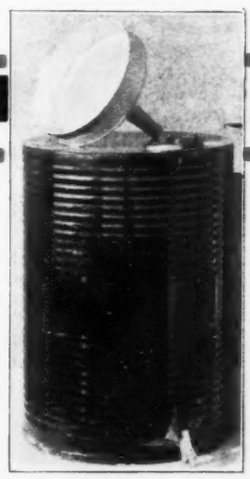

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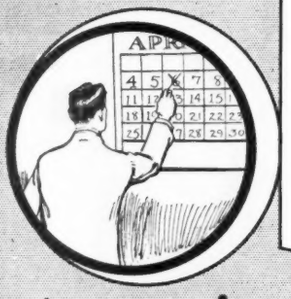

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three weeks getting the line back in shape. In this case, the line was uncovered at each mile and a man was stationed at each of those points to listen for the passage of the scraper, but none of the men heard it and two other scrapers were started through and also were lost. These scrapers were started through the line at 600 pounds pressure, but were ineffectual against the paraffin accumulation. One interesting fact has been developed with reference to burying lines; that is, that a line lying on the surface in the sunshine in cold weather is less likely to become plugged with paraffin than a line that has been buried, but not buried deep enough.

Marland to Drill in River

Marland Oil Co. is hauling out material for its rig in the bed of the Canadian river, a test which will be followed with much interest and which has already aroused considerable discussion, especially among the "old-timers" who are familiar with the antics of the Canadian in times of flood. The derrick for this well will be erected on piling, and will be anchored as strongly as possible. The company spent some time since it was first announced that it would drill in the river in drilling test holes to determine length of piling necessary to secure a suitable foundation.

The Marland company has a lease on the river bed for nearly 10 miles, and this location is approximately in the center of that lease, with other Marland leases offsetting it on both the north and south banks of the river. Exact location of the well is 315 feet north and 749 feet west of the northeast corner of Sec. 76, Block 46, H. & T. C. R. R. lands. Panhandle residents state that when the river goes on a rampage, nothing can stand before it and they do not believe this derrick would last long in one of these floods. The Ft. W. & D. R. R. bridge is washed out regularly each year when the river gets up, and this wreckage goes down stream at a great rate, as do vast amounts of other drift wood. The Marland engineers will build a breakwater on the upstream side of the well, and hope to be able to divert these rapidly moving timbers.

Credit Man Back In Tulsa

TULSA, April 9.—J. M. Bottomley, former credit manager for the Oklahoma Producing & Refining Corp. before that company was bought by the Pure Oil Co., is back in Tulsa as credit manager for the western division of the Pure. He has just been transferred back from the Columbus offices.

A. G. Elliott, who has been in charge of credits for the western division, has been transferred to Minneapolis. Mr. Elliott is chairman of the Association of Refinery Credit Managers.

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National Petroleum News

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Kerosene Treatment for Gas Wells

CLEVELAND, O., April 10.—Many gas wells make a little oil—just enough to be bothersome and not enough to save. While the well is new the oil can be blown out in the air—a wasteful method—or preferably trapped in a drip near the well. Eventually as the well grows older and rock pressure declines, the gas will fail to lift the oil out of the well and its accumulation diminishes the flow of gas. The gas, coming through the oil, carries off the lighter products of the oil by absorption, leaving a residue of thick "livery" substance. It is not successfully swabbed or bailed out, as it is too thick and viscous. Trapping in water does little good.

"The most effective method we have found", says W. D. Stoughton, superintendent of the central Ohio producing division, Pure Oil Co., "is to trap in the well 10 or 15 gallons of kerosene, leaving the well on the line. The gas coming up through the oil will agitate it and mix the kerosene with it, thinning it, and it can readily be swabbed out. All gas wells showing oil should frequently be treated with kerosene.

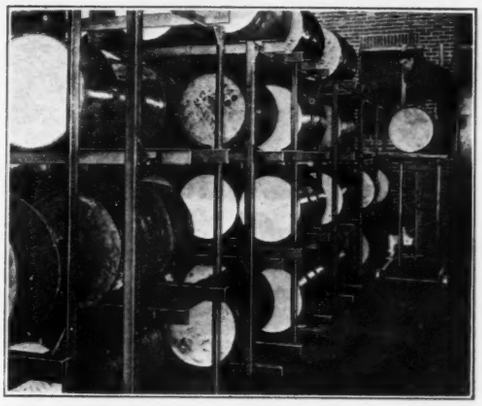
"When the well is new, if showing oil, it will be beneficial to give it the kerosene treatment, but if its rock pressure and volume are great enough to throw the fluid into the drip, the well should be shut in for 24 hours after trapping in the kerosene."

Kentucky Oil Output For February

LEXINGTON, KY., April 10.—The production of crude oil in Kentucky in February, by counties, was as follows:

Allen	19,482.08
Barren	22,833.33
Bath	982.15
Clinton	834.19
Cumberland	3,461.03
Daviess	1,603.71
Elliott	1,005.10
Estill	30,803.44
Floyd	1,106.31
Hancock	2,694.36
Hopkins	1,508.80
Jackson	242.26
Johnson	74,532.93
Knott	387.10
Lawrence	51,859.41
Lee	120,735.89
Magoffin	60,957.49
McCreary	149.09
Menifee	129.21
Monroe	892.50
Morgan	791.31
Ohio	18,564.25
Owsley	1,366.53
Powell	14,397.81
Simpson	442.42
Warren	35,082.38
Wayne	9,786.46
Waolfe	3,632.66

The figures were compiled by T. S. Scott, secretary of the Kentucky Oil Men's Association.



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Diamond Drills and Their Equipment Important in Oil Country

By Robert Davis Longyear
Minneapolis, Minn.

Before American Association of Petroleum Geologists, Dallas, March 27, 1926.

ONLY a few years ago the diamond core drill was a subject of little importance to the oil producer and explorer. Now, as a necessary instrument for the exploration of prospective oil lands, it has achieved an importance exceeding the early predictions of its most enthusiastic supporters.

The speed with which the diamond drill gains its objective and then moves on to the next job has enabled a comparatively small number of outfits to "make so much hole" that the total amount of drilling completed during the last 12 months probably lies fairly close to three-quarters of a million feet.

This paper deals briefly with the types of drills and equipment used in this class of work in such a way as to enable a prospective purchaser to form some idea of the practices that have been found by others to be best adapted for the particular requirements of oil structure investigation.

Number of Drills in Operation

According to information available, 15 oil companies in the United States own and operate 52 diamond drills for the purpose of investigating structure conditions. In addition to these, a certain amount of this work is being carried on by contractors, while other diamond drills are being employed in making wildcat tests and in coring oil sands in producing fields.

Of the 52 drills referred to above, 18 are driven by steam engines, and 34 by gas engines. Some of the steam drills are soon to be made over into gas-driven drills. Five drills have a capacity of approximately 2000 feet of 2-inch core, 43 drills have a capacity of about 1000 feet, and four are light outfits for shallow work.

The Drill Outfit

The principle of operation of the diamond drill is, in general, the same as that of rotary drills. In fact, the rotary drill was developed in the Gulf Coast country from an old type of diamond drill manufactured in Holland. The diamond drill outfits used for structure drilling have no rotary table; the drill rods (or stem) are rotated by a drive rod through which they pass and to which they are firmly held by a chuck. The drive rod in turn is rotated through a pair of bevel gears by the main power shaft. A hydraulic cylinder controls the feed, and the drive rod is suspended from a ball-bearing on the upper end of the piston rod. By means of valves leading from the pump to the hydraulic cylinder, the operator can place any desired pressure upon the bit or advance the feed downward at any required rate. At the end of each stroke of the piston, the rods are rechucked and another run made.

The first diamond drills purchased by the oil companies were steam-driven drills, but gas-driven drills have been found in general to be more desirable for this class of work. Boiler troubles, a very serious matter in most prospective oil territory, are eliminated, and for holes up to 700 or 800 feet in depth the saving in moving from hole to hole is an appreciable item of economy.

The usual assembly consists of a diamond drill, duplex pump, and Fordson tractor gas engine, mounted on wheels. The capacity is about 1000 feet of 2-inch core. Most of the gas drills are of this general arrangement, although a few units have been built with a self-propelling mechanism. This feature has certain advantages, which are somewhat offset by the disadvantage of increased weight and number of moving parts.

The hoist is of the internal geared type, driven from the main shaft. One manufacturer includes with the outfit a cathead for raising the tripod, handling casing, and pulling the drill out of mud holes. Connections to the gas engine are of various types and will not be discussed in detail.

The 3½ x 5 Gardner pump is driven from the power takeoff of the Fordson motor, a by-pass controlling the volume of water. Mud fluid is necessary for drilling, but since the smallest mud pump now on the market is too large for this type of drill, the standard water pump is used. A 3½ x 5 mud pump is now being placed on the market. One oil company eliminates the pump entirely from the drill mounting, and installs the pump on the front end of a separate Fordson tractor.

Driving the pump with a separate motor has the advantage of allowing greater variation in the pump speed and of decreasing the risk of a stuck bit in case the gas engine should stall. The disadvantage is the extra cost of running a second gas engine. A special assembly is now being experimented with in Texas consisting of a diamond drill, Waukesha gas engine, and two pumps, one for the hydraulic feed and one for the mud. The pumps are controlled by variable speed belt drive.

The gas outfits first manufactured had an electric lighting system attached. With proper care, this gives good service, but under rough usage most of them have been unsatisfactory. One manufacturer has discontinued installing the electric lighting plant as standard equipment.

The steam drill can be mounted on a truck to make it more readily portable. One oil company has made over a steam drill of 2000 foot capacity into a gas-driven drill, using a Climax engine for the motive power.

Diamond Bit Characteristics

The characteristic part of the diamond drill is, of course, the diamond bit which is an annular piece of soft steel set with four or more carbons or black diamonds. The diameter of core taken in oil structure work is two inches, and is known as size "N". The hole drill is about 2⅛ inches in diameter. Double tube core barrels of the ball-bearing type are usually used, although certain formations are cored satisfactorily with the single tube core barrel. The core is held in the core barrel with a split ring core lifter.

The drill rods have an outside diameter of 2⅜ inches. They are made in exactly 10-feet lengths to minimize errors in measurements of depth, and are usually hoisted and lowered in 20-foot "pulls." Being flush-jointed, they cannot be handled with elevators but are raised and lowered with a hoisting plug which is screwed into the upper end of the rod. The rods are held by two jaws of the safety clamp which rests on the platform and is operated by foot. The threads are square, four to the inch, and the joints can be made and broken with an ordinary pipe wrench.

The threads and dimensions of all diamond drill equipment such as drill rods, core barrels, and bits have been standardized by the manufacturers. This fact is greatly appreciated by the users, as the various makes are thus interchangeable.

Little Casing Used

Very little casing is used. A joint or two of 4½-inch, 4¾-inch or 5-inch surface conductor is sometimes desirable. Caving formations may make it necessary to drill the upper part of the hole large enough to admit a 3-inch casing. It is sometimes necessary to ream the hole already drilled in order to shut off cave. The casing used is 3-inch pipe or tubing. It must not be heavier than 8 pounds to the foot or the inside diameter will be too small to admit the diamond bit. Diamond drill flush joint casing is desirable if much reaming in hard forma-

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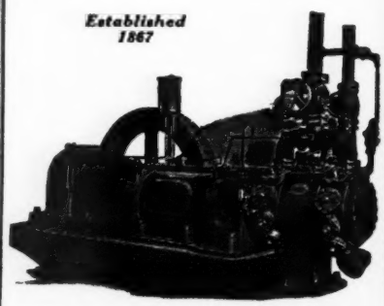

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tion is necessary, but for ordinary purposes the pipe is satisfactory and more economical.

Fish-tail bits are extensively used not only for reaming the hole for casing but also to obtain more rapid drilling progress in soft formations in which a core is not desired. Three sizes of fish-tail bits are standard, 6-inch, 4¼-inch, and 3⅞-inch. The 6-inch bit is used only for sinking the surface conductor. The 4¼-inch fish-tail bit is used in drilling the upper portion of the hole where core is not desired and where it may be necessary to use casing. It is also used for reaming the "N" hole to a size large enough for the 3-inch casing, for this purpose sometimes being dressed to a point. The 2⅞-inch fish-tail bit is used alternately with the "N" diamond bit and is dressed to a gauge that will permit either bit to follow in the hole made by the other. The usual practice now is to face the cutting edge of the fist-tail bit with stellite, stoodite, or other hard alloy. The process requires the bit first to be dressed in the usual manner but slightly under gauge. The alloy is then built up upon the bit with an acetylene torch, after which it is ground to a sharp cutting edge with proper gauge. This use of the alloy has effected large economies in drilling.

The derrick consists of a tripod of three poles approximately 35 feet long. A shelter made in knock-down sections is provided as a protection against the weather. This may house the entire outfit or simply enclose the drilling end.

A tank for hauling water is necessary and a tractor may be desirable for moving the outfit and digging the sump. A light automobile truck is usually supplied with each drilling unit or with each pair of drills. A "junk wagon" designed so as to hold drill rods, miscellaneous tools, and gasoline barrels, materially increases the efficiency of the crew. It not only saves loading and unloading time, but in addition the driller always knows just where to find the article he desires.

Selecting Proper Equipment

In Table I is given a suggested list of equipment for structure core drill work. This list is not complete but contains sufficient material for commencing the drilling operations. On the other hand, since this list is made up from a composite of the inventories of several different oil companies and one contracting company, it is unlikely that in any one case the entire list would be selected, for local conditions and personal judgment modify individual requirements.

The choice of the type of drill will depend largely upon the depth to be drilled, the cost of fuel, and the character and availability of water. Cheap coal and an abundance of pure water make a steam drill desirable, but if coal laid down at the drill is expensive and if the water is scarce or of a nature as to cause trouble in the boiler, a gas-driven drill is preferable. Another advantage of the gas drill lies in the time saved in moving.

Drills of three different capacities are on the market for this type of work; one class is capable of drilling "N" holes up to 2000 feet in depth, another up to approximately 1000 feet, while drills of the third class will drill this size hole efficiently up to 100 or 200 feet. Any drill can exceed its normal capacity under favorable conditions.

In entering the core drilling field for the first time, it would not be wise for a purchaser to stock up at the start with all of the items listed as Accessory Equipment (Table 1, 4 b), but to rely on local farmers for his teaming until he has organized his work to meet best his individual requirements.

Table 1—List of Diamond Drill Equipment For Oil Structure Investigation.

1. Material to be Purchased from Diamond Drill Manufacturer

1—Diamond drill complete with gas engine and pump 500 ft. (more or less) "N" drill rods
1—"N" water swivel
1—"N" hosting plug
1—"N" lifting bail
1—"N" safety clamp with jaws
1—5-ft. "N" drill rod
2—10-ft. "N" double tube core barrel
1—10-ft. "N" single tube core barrel
1—20-in. "N" single tube core barrel
1—"N" Guide rod with 1-ft. drill rod
1—Tripod clevis and bolt
1—24" sheave wheel with guard
1—set diamond setting tools
1—"N" setting block
1—"N" setting ring
1—bench vise
1—breast drill
1—setting hammer
1—pair dividers
1—pair inside calipers
1—pair outside calipers
12—assorted chisels and punches
10—assorted twist drills
1—hacksaw frame
12—hacksaw blades
1—25-ft. by 1-in. 5-ply hose and connections
1—12-ft. by 1-in. 5-ply hose and connections
1—Lot assorted packing, waste, valves, pipe and fittings
1—5-ft. drip hose
24—"N" blank bits, double tube
12—"N" core lifters
4—"N" core shells, S. T. to D. T.
1—"N" cross chopping bit
1—"N" rod to 3" pipe connection
1—Drive block, 350 lbs.
1—"N" R. H. rod tap
1—"N" R. H. coupling tap
1—"N" R. H. rod spear
1—3" R. H. casing tap
6—2-⅞" fishtail bits with "N" connections
6—4-¼" fishtail bits with "N" connections
2—6" fishtail bits with "N" connections

2. Material to be Purchased from Diamond Drill Manufacturer if Reaming in Hard Formation is Necessary.

200 ft. (more or less) "N" flush casing
1—"N" reaming barrel complete
4—"N" reaming bits
1—"N" rod to "N" casing connection

3. Material to be Purchased Directly from Carbon Importer or from Diamond Drill Manufacturer.

8—(or more) carbons (black diamonds) weighing from 2 to 5 carats each @ $100.00 to $150.00 per carat.

4. Material to be Purchased Locally or from Diamond Drill Manufacturer.

a—Casing and Casing Equipment

50 ft. (more or less) 4½", 4¾", or 5" pipe or casing, including short matching pieces
200 ft. (more or less) 3" pipe or tubing including short matching pieces.
1—pair (4½", 4¾" or 5") casing clamps
1—pair 3" casing clamps
1—4½" (4¾" or 5") drive head
1—3" drive head
1—3" to 4½" (4¾" or 5") reducer
1—4¼" rock bit for reaming 3" casing through hard rock

b—Accessory Equipment

3—Telephone poles for tripod, 35 ft. long, 10" or 12" bottom
1—Drill shanty in knock-down sections Sills and lumber for floor and scaffold Core boxes
1—Wagon or light auto truck
1—Tractor for hauling water and moving drill outfit
1—8-12 barrel water tank
1—Junk wagon with compartments for drill rods, tools, etc.

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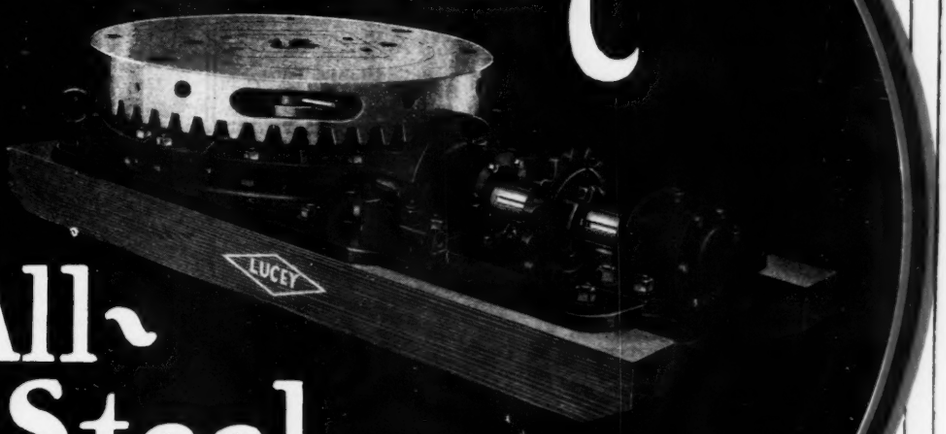

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for Drilling and Making up Pipe

- ¶ Built entirely of steel electrically annealed.
- ¶ Timken Roller Bearing for drive shaft with Alemite Oiling system.
- ¶ Steel Ground Roller Bearings for rotary table.
- ¶ Flat Top Table—No projections to interfere with handling of tools.
- ¶ All Drive Bushings securely locked in place and easy to remove.
- ¶ All moving parts run in a bath of oil—No foreign matter can enter.
- ¶ Ample provision for taking up wear.
- ¶ Constructed of few parts.
- ¶ Simple to change from a drilling machine to a machine for making up pipe.
- ¶ Base is made in one solid piece.
- ¶ Made in 20" and 28" sizes.
- ¶ Full openings through tables 20 inches and 28 inches.
- ¶ Weights complete 7150 pounds and 9150 pounds.

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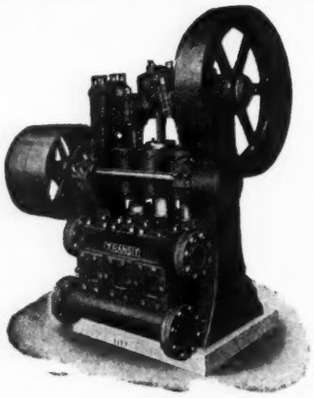

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1—Water heater for cold weather

4. Material to be Purchased Locally or from Diamond Drill Manufacturer, Cont.
c—Small Tools

1—Tool box
1—pair boomers
2—15-ft. chains
1—Endless chain
1—⅜" x 6-ft. chain with hook and ring
2—5-gallon oil cans
1—Hand oiler
1—Tin funnel
1—14-qt. bucket
1—Single bit axe
1—2-ft. wrecking bar
2—Crow bars
1—12" monkey wrench
6—10" flat files
1—2 lb. machinist hammer
1—Claw hammer
1—Rig builders hatchet
1—Screw driver
1—pair pliers
1—Emery wheel
1—12" spirit level
2—Cold chisels
1—Handsaw
1—No. 34 chain tongs
1—No. 33½ chain tongs
1—36" pipe wrench
2—24" pipe wrench
2—18" pipe wrench
1—Wire thread brush
1—Pipe vise
1—1" to 2" pipe cutter
1—1½" to 2" pipe stock and dies
1—8 lb. sledge hammer
1—8" single block for 1" rope
1—8" double block for 1" rope
100 ft. 1" Manilla rope
1—Rope hook
2—Jacks
1—Brace
Assortment of bits
1—Tape or rule
1—Broom
3—Kerosene lanterns or gasoline lanterns
1—5 lb. pick
1—Tile spade
1—Shovel, long handle
1—20-ft. length 2" suction hose with strainer
1—2" foot valve

Cost of Equipment

The cost of a diamond outfit for drilling holes 500 feet in depth, as listed in Table I, is roughly as follows:

1. Material to be purchased from diamond drill manufacturer	$6,000 to $7,000
2. Omitted	
3. Carbon	2,200 to 4,500
b. a Casing and casing equipment	250 to 275
b. Accessory equipment	150 to 1,750
c. Small tools	160 to 200
Total	$8,760 to $13,725

The figures include the cost of 500 feet of "N" drill rods and 200 feet of 3 inch pipe for casing, but do not include any of the items listed in Section 2. Any variation in the amount of drill rods or of 3 inch casing will alter the estimate accordingly. The cost of the carbon will depend upon the number, size, and grade of stones selected. Two four-stone bits averaging 2½ carats to the stone and worth $110 the carat, will cost $2,200. Two six-stone bits averaging 2¾ carats at $135 the carat will cost $4,455. Four stones in a bit is common practice but six stones is preferable. In the long run it is probably poor economy to purchase any but the best grade of carbon. The cheaper grades crumble and break easily. A saving in the initial cost of the drill outfit can be made by omitting such items as truck and tractor.

The diamond drill has firmly established itself as an indispensable part of oil exploration equipment.

Inexpensive Crankcase Drain Tank Designed By Marland Man

By J. C. Chatfield
N. P. N. Staff Writer

TULSA, April 9

AN inexpensive crankcase drain tank has been designed by P. C. Wilson of the Marland Refining Co. It is being installed at a large number of the smaller stations of the company where no specialty is made of greasing and it is undesirable to install a pit, lift or rack. In the Marland organization the device is known as the Wilson drain pit.

Use of the drain tank eliminates unsightly barrels at the station which otherwise would be needed to hold drainings until enough has been accumulated for final disposal. It eliminates the use of a bucket to catch the waste oil and the formation of unsightly grease spots on concrete station drives.

To install the device a pit is dug which will hold a two barrel tank 24 inches in diameter by 4 feet in length. An air connection is made so that the tank may be emptied readily by using compressed air. An 18-inch manhole is provided which runs up to the surface of the drive.

The manhole cover is 22½ inches in diameter and dished toward a two-inch hole in the center. It is drilled around the edges with 9/16 inch holes to take ½ inch tap bolts which hold it in place. The center hole is tapped for a two-inch plug which is screwed in when air is applied to empty the tank. At other times a cast brass kitchen sink screen is screwed in to keep solid matter from entering.

A blow pipe 1¼ inches in diameter is welded into the manhole cover. It projects and is threaded to take a cap when not used. When the tank is to be emptied a hose connection is screwed on, the air applied and the waste oil in the tank is forced into drums which may be brought in on trucks.

The accompanying drawings Fig. 1 show a sectional view of the drain tank and a plan of the manhole cover. It will be noticed that a two-inch concrete ridge is poured about the opening. This is 2½ feet by 3 feet and serves as a guide for the motorist who drives up to have his crankcase drained.

The designer of the tank has been connected with the retail marketing department of Marland almost since the department was organized. He was formerly assistant manager of the department and is now chief investigator. In that capacity he makes a study of every property which is under consideration for a station site before any money is spent by the company.

Wesley I. Nunn, manager of the department, recently visited the Marland stations at Hammond, Ind. While he was there he noticed that station attendants often had to move cars after they had been driven over the greasing pits. This was necessary because of the fact that the waste pipe with its funnel moved through only a short arc.

The crankcase drain cock could not be much over a foot to one side or the other of the drain line.

Mr. Nunn suggested that if the swing line could be jointed in the center it would more than double the range of the funnel. Fig. 2 shows how this was worked out. The funnel is screwed into an elbow on the end of an 18-inch length of pipe. Between this and another 18-inch length are two elbows and a nipple. The elbows are screwed tightly to the 18-inch lengths so that the funnel may not tip over but the nipple is not screwed into the elbows tightly. The same is true with the connections with the drain line at the side of the greasing pit which carry the waste oil to an underground tank for storage until a sufficient quantity is accumulated to dump.

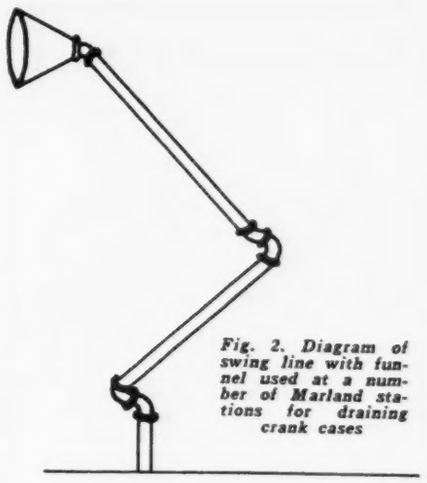


Fig. 2. Diagram of swing line with funnel used at a number of Marland stations for draining crank cases

With the aid of the Nunn swing joint it is possible to move the funnel directly under the drain cock over a length of over 4 feet. In other words by the addition of two elbows and a nipple the usefulness of the swing line was increased over four times.

At many stations it is present practise not to have underground storage tanks for crankcase drainings. Station attendants put a bucket under the drain cock and dump the waste oil into a drum which is set somewhere on the site. The bucket method is not allowed at Marland stations because of the fact that it is almost impossible to keep a station looking its best with buckets and barrels sitting about. The investment in cleanliness is not large and much time is saved when the oil is taken away. With underground tanks and air pressure for emptying the drums to receive waste oil need never be removed from the truck until they are finally dumped at the bulk station.

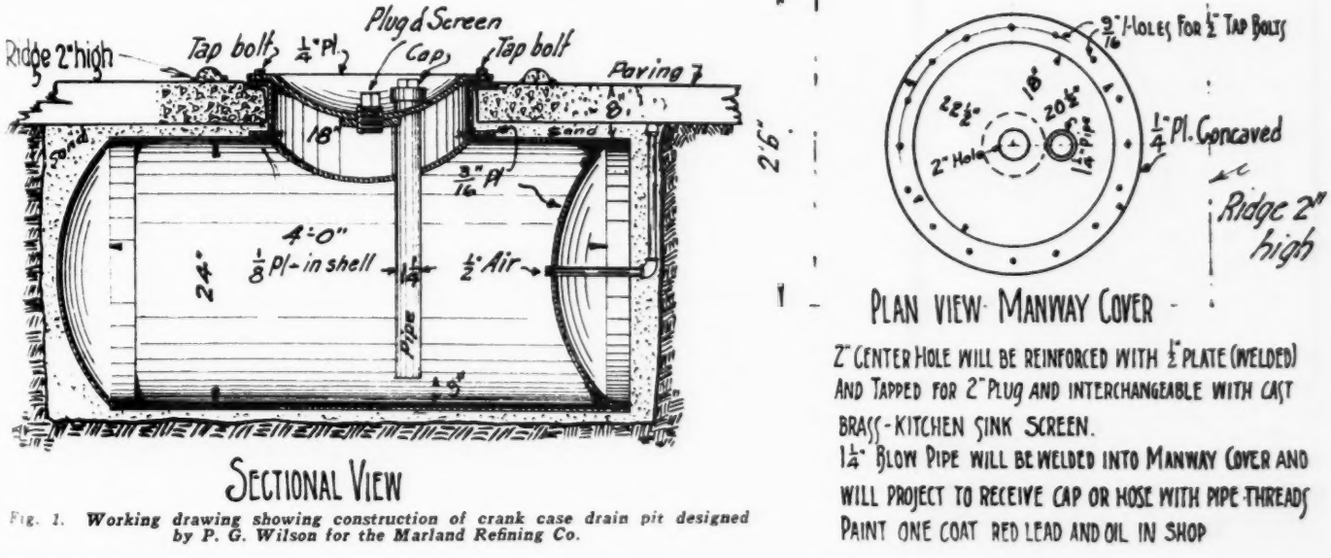
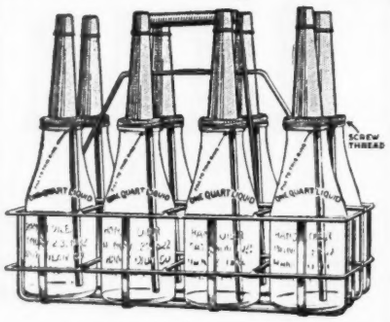


Fig. 1. Working drawing showing construction of crank case drain pit designed by P. G. Wilson for the Marland Refining Co.

The Handy Oiler



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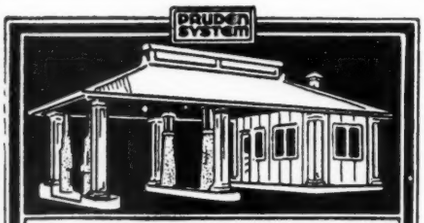

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SAINT PAUL, MINN

From a Geologist's Portable--

Letters on manners, customs and events as observed by a constant and long-distance traveler.

National Petroleum News

DEAR LARRY:

This is the first winter for twelve years I have spent in the north. Except for a trip to Mexico, another to west Texas and New Mexico, an occasional trip to New York, and a couple of weeks in Canada, I have been at home. While I do not think all the oil has already been found, this must mean something. I have therefore come to the conclusion that like my friend the Professor I must look for a job.

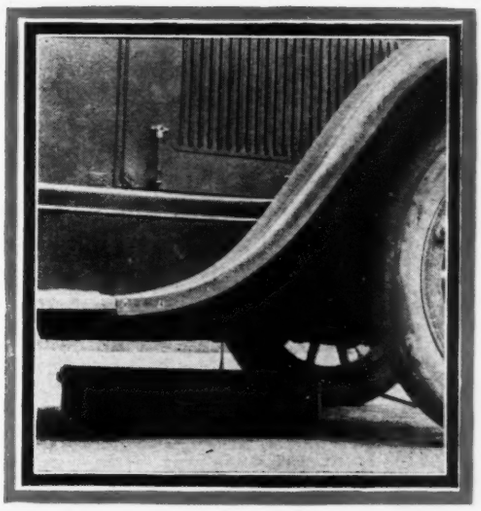
I ran across him in a large mahogany office, with a draughting room on one side and the executive offices on the other, lending a geological atmosphere to a banking house which has recently decided to get its feet wet in oil. He had installed a dictaphone and was keeping three stenographers busy in an absent-minded sort of way. In fact, the day before he had dictated a couple of letters into the telephone receiver; and the office boy claimed that he showed up recently with two four-in-hand neckties duly installed where one is usually considered sufficient. One of his former students on his first trip to southern Mexico lost himself for a couple of days, claiming that his compass was not working right. Thenceforth the stude carried two Brunton compasses for a check and to give him more confidence in himself and the mule. But then all men's brains do not lend themselves to the application of scientific method.

By way of sequel to the recent Scopes trial in Dayton, Tennessee, a young fellow from that same state was discontentedly working on an irrigation ditch in New Mexico. He had about decided to quit, as he was tired doing the Lord's work and his own too. He claimed that back where he came from they planted and then prayed for rain, which seemed the Christian thing to do. This attitude reminded me of the conservatism of Smith, who was sent down to Colombia to explore a large jungle concession. Having heard of the bad bow-and-arrow Indians in the interior, and remembering the old Conquistadors of Nueva Granada, he had a blacksmith make him a suit of mail from some corrugated iron roofing. This being shortly after the camouflage experiments of the late war, the blacksmith improved on the pattern by painting the outside to resemble a modern suit of clothes, and added three cigars in the pocket in the northeast corner. This is still preserved in the offices of the Company. I have never understood the lack of comment of the early explorers of that country in their memoirs, of the methods of eliminating insects which took up their abode under a suit of mail. Smith is voluble on the subject. Geologists who at home are very sarcastic in restaurants on the matter of dirty tablecloths and greasy silverware, have been known to discover a legless and wingless roach in the coffee-pot in their camp without turning a hair. So perhaps these minor discomforts did not worry the early Spanish while they were away from home. For instance, Ellsworth does not object to drinking bay-rum in Texas; but refused to drink coffee flavored with bay leaves in Guatemala. Said it tasted like a barber shop.

I have discovered a new excitant for the Texans who are drinking tequila and Tabasco sauce these days. Two little village boys in San Jose had captured a large toad, and were experimenting on his appetite for bugs. Finding that he was satisfied with anything so it was a bug, they caught some live wasps for him. The toad would gulp a was pause a moment in thought, and the spring into the air and come down o his head. But after a few minutes he was ready for another wasp. Merely a suggestion for our local boot-leggers.

Curacao these days reminds me of the old "First Chance"—"Last Chance" saloons which were once found on the outskirts of all western towns. Its strategic position is similar for all oil men going and coming from Venezuela. I heard the following in a restaurant there not long ago, when a bunch of "tankee" hit town. "Bonus dees, seenyor! Gimme two hard-boiled eggs and a cocoanut. Say, bo, we licked the Army and the police force last night, and the guy says the Dutch Navy is coming in this afternoon." Apparently there were no pipe line gangs on the island.

Gradually the oil companies and their barbarian employees from the north are introducing modern sanitation in the Tropics, works of mystery, generally, to those native inhabitants who have had no training in such matters and whose attempts at imitation frequently border on the ludicrous. However, these little inconsistencies are not restricted to our neighbors. The boss carpenter at one of the oil camps in building a large combined bunk house and office building, finished up by screening all the room doors. As the interior partitions only reached half way to the ceiling, the gang took great pleasure in explaining in the boss carpenter's presence that he had only counted on a particular species of low-flying mosquitoes, which never went over partitions.



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Your jobber carries a full line of Brookins service station equipment or can get it for you. Get in touch with him today.

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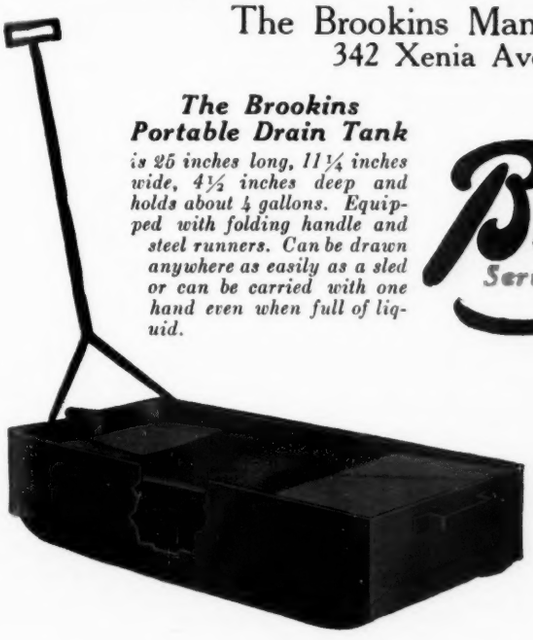

The Brookins Portable Drain Tank

is 25 inches long, 11¼ inches wide, 4½ inches deep and holds about 4 gallons. Equipped with folding handle and steel runners. Can be drawn anywhere as easily as a sled or can be carried with one hand even when full of liquid.

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Service Station Equipment

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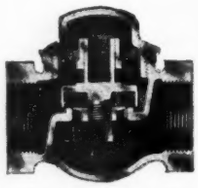
Made in one, two, four and five quart sizes. Has a flexible metal hose that reaches any oil intake without a funnel. A handy thumb-valve controls the flow of oil.

Fig. 152 Screwed, Jenkins Standard Iron Body Angle Check Valve.



Sectional view, Fig. 117 screwed, Jenkins Standard Bronze Horizontal Check Valve.

Fig. 352 Screwed, Jenkins Standard Bronze Swing Check Valve.

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You can depend on a Jenkins Check Valve in lines where the flow is one-way. Its action is prompt and reliable, a Jenkins renewable disc insuring leak-proof contact as well as taking up the wear of frequent opening and closing.

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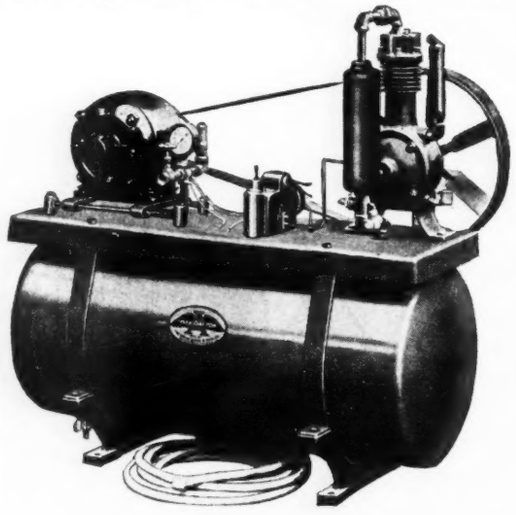


You can afford in this case to 'follow the leader'.

This is
'Dayton' E-2

Automatic control, moisture release, motor starts against no load. Tank tested at 500 lbs. Hydrostatic test.

Automatic Spring Tension Take-up on belt. Pumps to 140 lbs. pressure; capacity 2½ cub. ft. per minute.

Get catalog of 7 Type, 25 styles.

The Lucas Pump & Tool Co.
425 Valley Street — **Dayton, Ohio, U. S. A.**

Timken Gets Rights To Socony Burner

NEW YORK, April 9.—Selling rights for the Arrow oil burner for home heating developed two years ago by the Standard Oil Co. of New York, outside New York state and New England, have been acquired by the Timken-Detroit Co., which will market the burner under the name of the Timken Arrow oil burner. This announcement was recently made and it is understood the Detroit concern is to push sales of this burner actively over the country outside Standard of New York territory.

The Standard of New York, which handles the burner through a subsidiary organization, Socony Burner Corp., has been advertising extensively in New York papers this winter. It maintains displays of a burner in operation on E. 40th St., and also in its own building at 26 Broadway.

Sales, installation, service and financing is handled through this one corporation. The burner sells for around $1000 installed, with tankage. It can be bought on terms, about a third down.

Permit Extension Bill Passes Congress

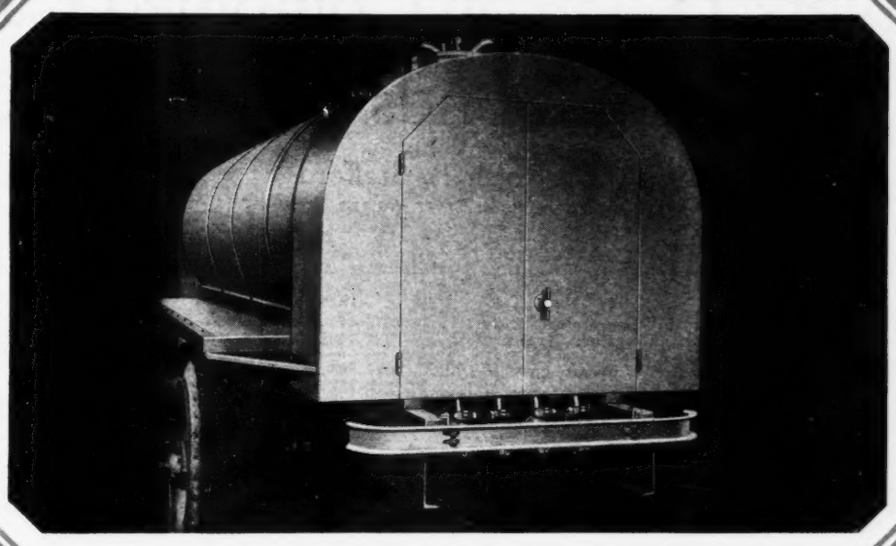
Staff Special

WASHINGTON, April 13.—Both House and Senate have passed S. 2461, the bill authorizing the Secretary of the Interior to extend the time under oil and gas exploration permits recommended by Secretary Work. President Coolidge is expected soon to sign the measure thereby making it a law. It authorizes the head of the Department of the Interior to extend the time in cases where there is a showing of good faith in the prosecution of the work required by the law. The House amended the bill so as to extend its provisions to a permittee who has drilled wells of the depth and within the time required by existing law, and has failed to discover oil or gas, and who desires to prosecute further exploration.

Rules on Coastwise Shipping Law

WASHINGTON, April 13.—Attorney General Sargent has ruled that a British ship may bring gasoline or any other product, for that matter, from California to New Orleans, have it processed there and the final product shipped out, without violation of the coastwise laws. In that way ships of foreign registry may engage in what is now part of the coastwise trade.

The general intent of the coastwise laws is to keep foreign ships from the transaction of any business between American ports. The opinion overrules an opinion by Commissioner Carson of the Bureau of Navigation of the Department of Commerce.



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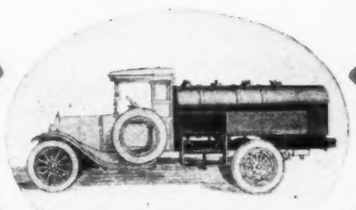

It always pays to get Farrell's prices—complete catalog and specifications sent upon request.

Gulf Nets 13.43% on Combined Capital, Surplus and Bonds in Best Year

By Roger B. Stafford
N. P. N. Staff Writer

CLEVELAND, April 12

GULF Oil Corp.'s most profitable year was 1925. Its gross earnings exceeded $215,000,000 and the net profits available for stock after liberal allowances for reserves, taxes and interest, amounted to $35,000,761. This amount was equivalent $7.97 a share on the $25 par stock of which $109,767,900 was outstanding at the end of the year. This was 31.88 per cent on the capital stock but only 13.43 per cent on the combined capital, surplus and funded capital.

The company continued its conservative dividend policy, paying only $1.50 a share a year, and put back into the business more than $28,000,000. The surplus account increased from $78,083,000 to $107,961,000, or almost equal to the par value of the capital stock.

Talk of Stock Dividend

There has been talk of a stock dividend by Gulf but whether one may be declared later this year probably would depend on the outlook for business six or eight months hence. The company, according to President W. L. Mellon, plans to continue to put its surplus earnings back into the business and fortify itself in all branches of the industry.

A stock dividend would mean a diversion of a larger part of the earnings into cash dividends if the present 6 per cent rate were maintained. Whether a stock dividend might be made would depend, it seems, on whether the directors would care to make such diversion while fortifying the corporation for the future.

During the year it has made rapid strides in South America where it has obtained interest in several valuable concessions in Venezuela. Early this year it took from Henry L. Doherty & Co. an option on the Barco concession in Colombia but this concession later was cancelled by the Colombian government and the case is now in the Colombian courts.

Gulf began construction of a refinery at Bayonne, N. J., with daily charging capacity of 20,000 barrels. It is understood the plant was sufficiently complete on April 1 to start operation at the rate of 10,000 barrels daily. The remainder is expected to be completed before summer trade arrives.

Lessens Haulage

The Bayonne refinery will run Venezuelan crude which the company is now producing in excess of its needs at this new plant. It will supply the eastern market stations of the Gulf to considerable extent and lessen the distance travelled by the oil from the well to the consumer.

Consolidated Income Accounts of Gulf Oil Corp. and Subsidiaries

	1925	1924	1923	1922	1921
Gross earnings	$215,661,868	$172,481,559	$159,057,367	$159,188,250	$128,232,402
Operating expenses	127,763,121	108,099,025	98,193,340	100,754,494	85,927,558
Operating profits	$ 87,898,747	$ 64,382,534	$ 60,864,027	$ 58,433,756	$ 42,304,844
Other income	2,157,890	2,499,413	5,615,229	3,043,010	3,584,735
Appreciation of inventories	2,948,543	1,873,820	.....	.....	.....
Total income	$ 93,005,180	$ 68,755,767	$ 66,479,256	$ 61,476,766	$ 45,889,579
Inventory adjustment, taxes, interest	21,044,703	17,074,433	17,330,845	15,851,543	6,968,291
Depreciation, depletion	‡36,959,716	‡32,514,540	‡34,825,069	25,873,156	†29,852,501
Net income	$ 35,000,760	$ 19,166,795	$ 14,323,342	$ 19,752,067	$ 9,068,787
Dividends	6,554,731	6,523,230	6,523,229	2,173,950	2,167,926
Surplus	$ 28,446,029	$ 12,643,565	$ 7,800,113	$ 17,578,117	$ 6,900,861

†Includes inventory adjustment.
‡Includes drilling costs.

Consolidated Balance Sheets of Gulf Oil Corp. and Subsidiaries as of Dec. 31

ASSETS

	1925	1924	1923	1922	1921
Plant investment	$319,526,251	$286,342,299	$255,820,807	$210,968,379	$178,400,591
Cash	11,956,962	7,244,054	7,725,439	4,058,553	4,769,380
U. S. obligations	.....	.....	.....	17,990,081	13,073,218
Deposit to cover 7% bonds	.....	.....	.....	37,362,183	.....
Marketable securities	1,036,548	6,166,719	.....	.....	4,532,558
Re-acquired securities	692,386	2,556,626	.....	2,465,012	.....
Notes and loans receivable	366,052	508,211	681,882	4,070,339	†12,333,128
Accounts receivable	13,098,354	9,974,046	8,403,822	11,308,214	.....
Oil inventories*	57,419,301	42,091,252	40,380,568	34,673,427	34,566,528
Materials and supplies	9,500,379	10,996,904	10,949,166	10,840,826	10,839,568
Employes' loans on stock	9,174,112	9,639,986	7,454,545	9,827,165	9,558,512
Miscellaneous investments	980,827	472,661	311,230	383,187	199,572
Prepaid accounts	1,201,159	1,027,509	1,266,897	1,025,289	‡ 4,501,050
Deferred charges	2,747,963	2,513,142	2,504,198	3,405,951	.....
Total	$427,601,295	$379,533,410	$335,498,553	$348,378,605	$272,774,104

*At cost or market which ever is lower.
†Includes accounts receivable.
‡Includes deferred charges.

LIABILITIES

	1925	1924	1923	1922	1921
Capital stock	$109,767,900	$108,952,900	$108,720,400	$108,718,600	$ 36,232,500
15-yr. 5% bonds	30,904,000	32,954,000	35,000,000	35,000,000	.....
5½% debentures	12,000,000	16,000,000	.....	.....	.....
12-yr. 7% bonds	.....	.....	.....	35,000,000	35,000,000
6% gold notes	.....	.....	.....	6,000,000	6,988,000
Lease purchase obligations	.....	85,500	200,000	250,000	.....
Notes payable	.....	.....	5,200,000	1,500,000	336,159
Accounts payable	10,762,725	10,255,841	8,232,002	8,892,847	7,340,341
Accrued liabilities	1,861,214	1,386,669	783,200	2,654,909	.....
Depletion, depreciation	148,593,421	127,567,979	109,381,083	90,623,157	70,848,507
U. S. taxes, contingencies	5,509,985	3,594,158	2,737,439	2,235,168	2,444,087
Deferred credits	244,534	633,252	97,426	151,796	21,28,661
Minority interests in subs	5,664	9,169	11,619	18,198	168,056
Surplus	107,961,450	78,093,941	65,135,385	57,333,930	111,287,792
Total	$427,601,295	$379,533,410	$335,498,553	$348,378,605	$272,774,104

The marketing division was enlarged particularly in the southeastern states. An ocean terminal was completed at Charleston, S. C. Inland bulk distributing depots were constructed and many service stations built. This building program is being continued into this year and the Bayonne refinery places the company in position to extend greatly its distributing facilities in the territory reached from its North Atlantic tide water terminals.

Concerning the 1925 operations, Mr. Mellon said in a letter to stockholders:

"The net earnings are the largest in the history of the company. The present outlook for earnings during the coming year seems to be favorable.

"Gasoline prices show a marked improvement over those of the preceding year and the effect of the season's overproduction was not felt until during the last four months, in which period there was a decided depression, but not to so great an extent as had been felt during the last half of the preceding year.

Gasoline Output Increased

"There has been a decline in the oil production of the country, which is tending for higher crude prices, but on the other hand, there has been a general increase in establishing various processes at refineries for increased production of gasoline which will likely have the effect of stabilizing the market price of that product even though the price of crude may advance to higher levels.

"During the year there were substantial additions to the plants of the subsidiary companies, the largest expenditures having to do with those companies concerned in the production of crude oil in both the domestic and for-

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Shoots Straight--

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PENRECO Motor Oil Shoots 1,000 Miles, one crankcase filling, Straight to the Vital Points.

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Hits the Mark!

Seals Piston Ring Joints, Stopping Gas Leaks, and making a smooth, soft cushioning of crankshaft and connecting rod bearings.

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PENRECO Produces Rapid Fire Repeat Sales!

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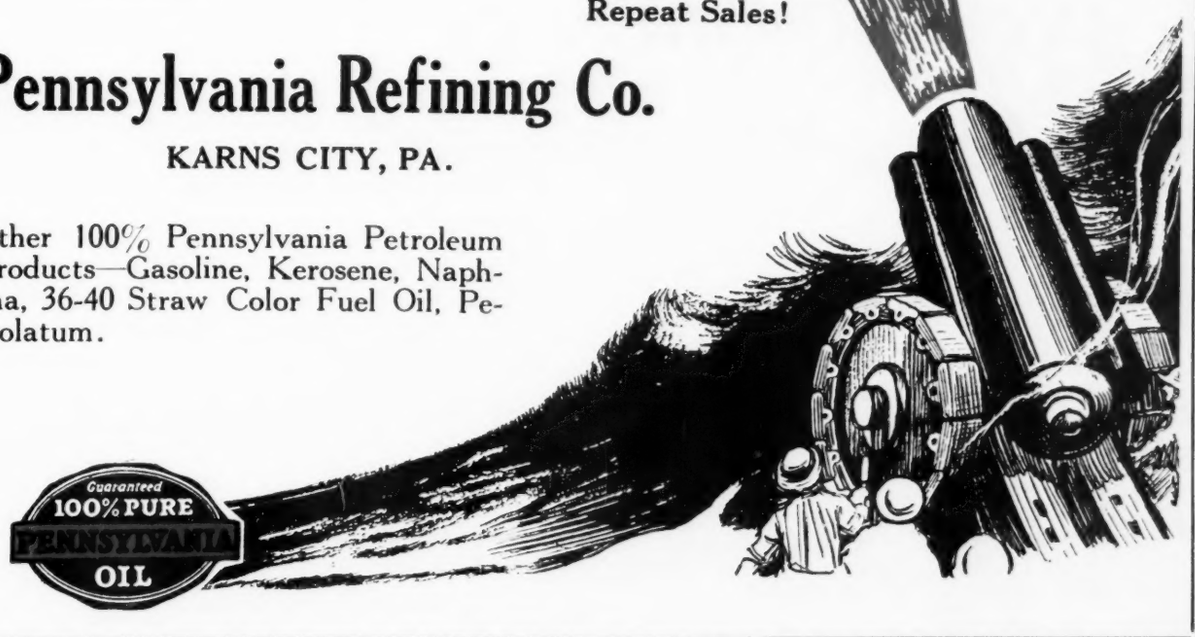

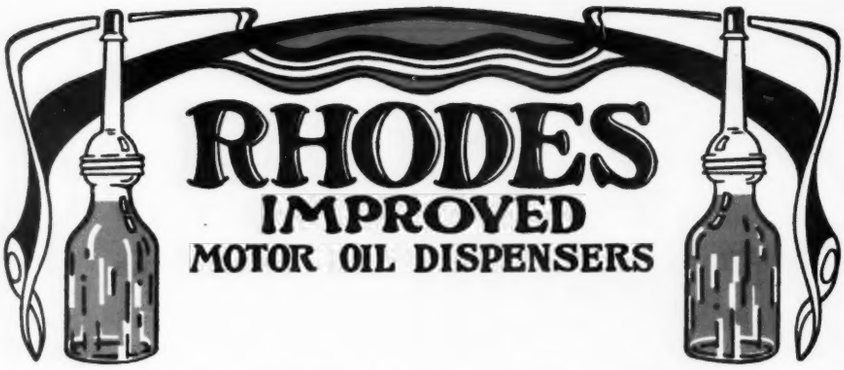

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In selling filling station products, the big profit-maker, motor oil, often is kept the *silent* partner.

The presence of gasoline is blazoned from pumps flooded in light. Greases and heavy lubricants are displayed in brilliantly lettered cans. But what about motor oil?

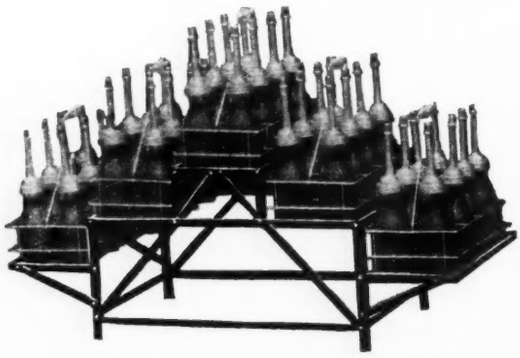
They Show the Oil

Rhodes Improved Motor Oil Dispensers with their perfect visibility, give oil high display value. Alongside your gas pumps, three or five trays of Rhodes Dispensers on a Rhodes Motor Oil Display Rack present an appearance of business-like uniformity and are a constant reminder to buy oil.

The prefilling feature of Rhodes Dispensers suggests service without delay and the accuracy and cleanliness of this service appeal to motorists.

Use Rhodes Oil-Selling Equipment in your stations and make that silent partner speak for himself.

Rhodes Motor Oil Display Racks also made in 3 Tray size.



Dispenser Sets and Display Racks are priced separately. Write us for prices.

JAY B·RHODES Co.
KALAMAZOO, MICHIGAN.

eign fields. There were also constructed many extensions to the pipe line systems, the most important of which was an 8-inch line connecting the fields of Arkansas with the refinery at Port Arthur.

"The production of crude oil from our wells in the United States was larger during 1925 than the previous year, and is also larger at this time than the corresponding period of last year, with large increased lease holdings of undeveloped areas.

Foreign Drilling Favorable

"The results from the drilling operations in foreign countries have been favorable. Our crude oil production in the heavy oil district of Mexico have averaged about 20,000 barrels per day, with a light oil production of 5,000 to 6,000 barrels per day. In Venezuela we have a production on our lake shore concessions running from 15,000 to 25,000 barrels per day, and the outlook for future increase at this time seems to be favorable. During the year we have made very large additions to our holdings of prospective oil territory in Venezuela. In Colombia we have acquired controlling interests in several large concessions upon which we hope to complete test wells during the present year.

"There have been substantial improvements and increased capacity in the refining department, including the construction of a new plant at the Bayonne, N. J., terminal of the Gulf Refining Co., which should be completed by the first of April, and will have a capacity of about 20,000 barrels of crude oil per day. The object of this plant is to supply a market for the Venezuela crude so that it can be moved direct to the northern markets.

"During the year we have contracted to increase our tanker fleet about 43,000 tons, 37,000 tons being American Diesel driven motorships (one 10,000-ton unit having been delivered), and 6,000 tons being light draft foreign built steamships, the latter being for use in moving oil from the field at Lake Maracaibo, Venezuela, to the Paraguana terminal.

"There has also been an increased investment in steamship terminals and retail distributing stations.

"On account of the general growth of the business, the management is continuing the policy of reinvesting the surplus earnings in the plant and producing properties of the subsidiary companies."

Six Years' Earnings

Following table shows the gross and net earnings and average net per share in each of the last six years:

	Gross Earnings	Net for Stock	Net per Share
1925	$215,661,869	$35,000,760	*$ 7.97
1924	172,481,559	19,166,795	* 4.40
1923	159,057,367	14,323,342	* 3.29
1922	159,188,250	19,752,067	* 4.54
1921	128,232,402	9,068,787	† 25.03
1920	159,575,090	28,543,157	† 78.97

*$25 Shares after 200% stock dividend.
†$100 Shares.

The balance sheet of Dec. 31 shows an increase of $33,000,000 in the gross value of the corporation's fixed assets. Against a total plant and property valuation of $319,526,251 was carried a depreciation and depletion reserve of $148,593,421. The latter reserve was increased $21,000,000 last year.

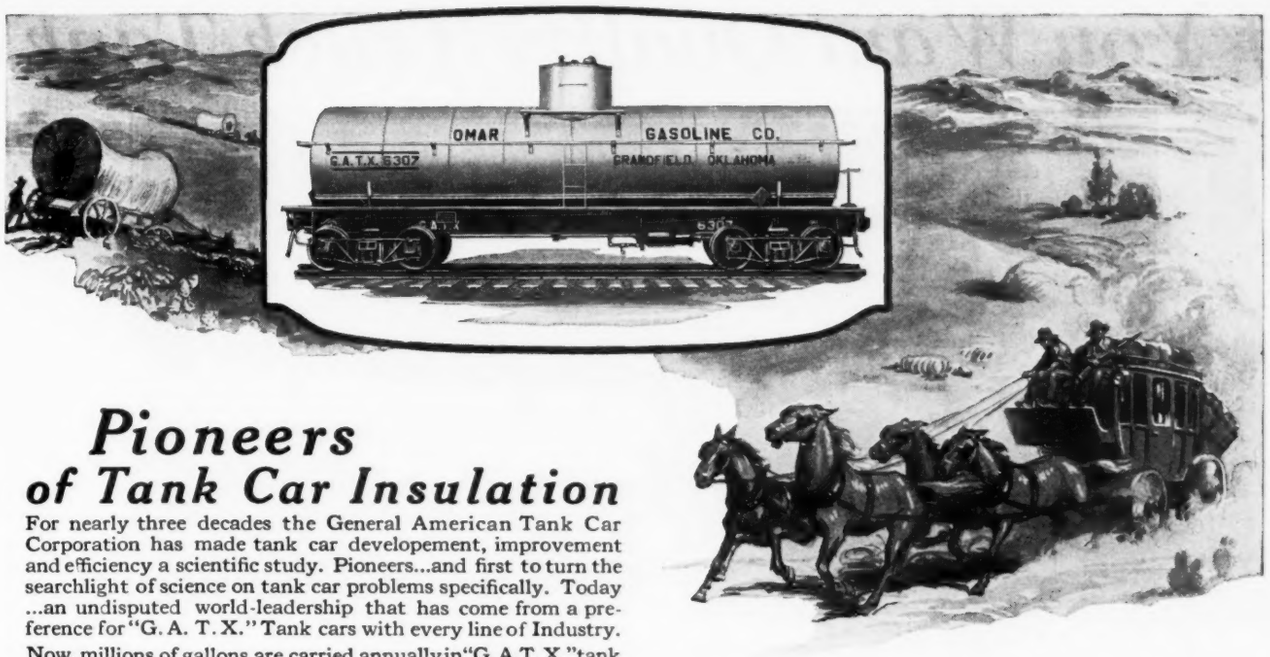
Current assets last Dec. 31 amounted to almost $15,000,000 more than on Dec. 31, 1924, and current liabilities increased less than $1,000,000 during the year. Net working capital on Dec. 31 was $81,356,042, the largest amount in the history of the corporation. The following table shows the current assets, current liabilities and working capital as of Dec. 31 each year:

Dec. 31	Current Assets	Current Liabilities	Working Capital
1925	$93,979,981	$12,623,939	$81,356,042
1924	79,537,812	11,728,011	67,809,801
1923	68,140,876	14,415,201	53,725,675
1922	85,406,452	13,297,755	72,108,697
1921*	80,114,379	7,676,500	72,437,879
1920*	83,819,898	34,144,345	49,675,553

*Subsidiaries' accounts not included.

Oil inventories on Dec. 31, carried at cost or market, whichever was lower, amounted to $57,419,301, an increase of $15,000,000. The company was thus in position to well care for the increase in demand for gasoline and other products this year. Cash carried on Dec. 31 was $11,956,962, an increase of $4,700,000 over amount carried Dec. 31, 1924.

Last year Gulf retired $2,000,000 of its 5 per cent bonds and $4,000,000 of its 5½ per cent debentures.



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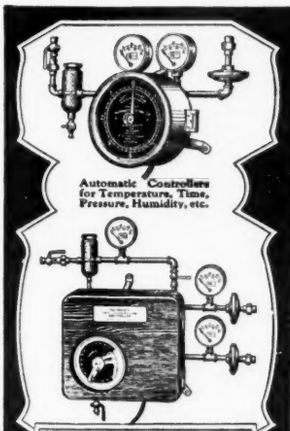

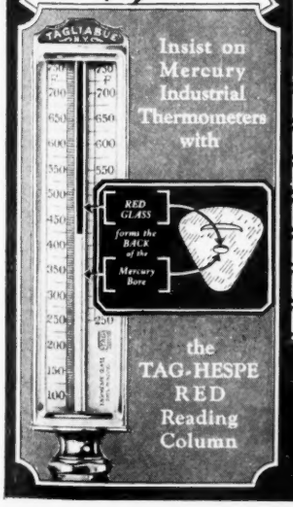

Insist on Mercury Industrial Thermometers with the TAG-HESPE RED Reading Column

TAG

One of a series of brief descriptions of the standard tests of petroleum products.
No. 1, "Gravity" appeared in N. P. N. for March 10th;
No. 2, "Color" on March 24th.

No. 3-Viscosity

PERHAPS the most important property of a lubricating oil—since every different application requires an oil of a definite viscosity for most efficient results.

Viscosity is measured by the time in seconds required for a given quantity of the oil at a given temperature to flow through an orifice of standard size, drilled with exquisite precision through the bottom of a standard tube.

Viscosity is expressed in "seconds Saybolt" because the only standard instrument for measuring it is the Saybolt Universal Viscosimeter, designed by the late George M. Saybolt and approved as standard by the A. S. T. M., the A. P. I. and the U. S. Government. The original Saybolt is manufactured only by this Company. We put it out in two models—one-tube regular form, shown on the right; or four-tube electrically heated and with automatic temperature control of bath. Both forms are described in Catalog N-699, a book that should be on your desk.

Next discussion, "Cloud and Pour." In this space April 28.

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HEIL QUALITY 25th ANNIVERSARY

Failure of Tube in a Cracking Still Causes Fire in Refinery

Report of A. J. Snow Board of Fire Underwriters of Pacific (Member N. F. P. A.)

Reprinted from Quarterly of National Fire Protection Association

A FIRE at the Utah Oil Refining Co., Salt Lake City, Sept. 5, 1925, caused the death of four men and property damage estimated at between $50,000 and $75,000. The fire originated in a high pressure gasoline process still when a tube burst. The stills and adjacent construction were of steel and reinforced concrete. The only combustible material was oil from the stills.

At about 2:40 p.m. on Sept. 5, the still man at the high pressure still noticed that something was wrong with still No. 21 and notified the assistant superintendent, Mr. Arnold, that his still was smoking. Although at this time there was no fire, Mr. Arnold had the private fire brigade chief's call number blown from the plant whistle and then in company with a foreman he immediately went to the source of the trouble. Upon arriving near the stills he stopped at the receiving house to make sure that the pressure in the stills was being reduced and that oil was being drawn from them. Both of these things were being done, Mr. Arnold then proceeded to the stills, but just before he reached them the burning oil flames burst out of the air doors in the fire-boxes and enveloped the stills in fire. When this happened there were five men in front of the stills —the foreman who had accompanied Mr. Arnold and four still operators. Of these, one escaped with minor burns, two were so badly burned that they died within a few hours at the hospital where they were taken, and the foreman and the other operator were burned to death before they could escape.

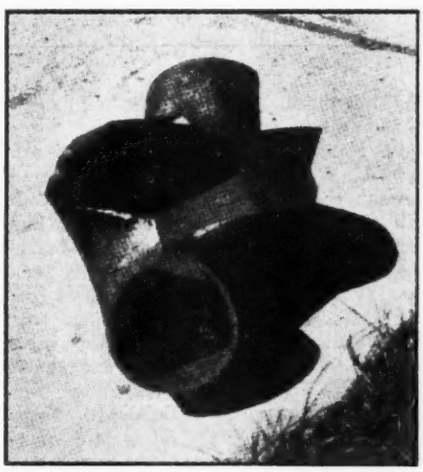
Employees of the plant immediately upon seeing the fire pulled a city fire alarm box and the local fire alarm was sounded.

The immediate cause of the fire was the burning of a tube in still No. 21 with the consequent flooding of the fire box beneath the still with hot oil, which was then forced out of the air door in front. The cause of the tube failure is a matter of conjecture.

The high pressure stills operate normally at a temperature of approximately 860° F. with a pressure of 325 pounds gage. Normal operation was being carried on previous to the fire. Each of the stills usually contained about 13,000 gallons of oil during a run. Their total capacity is 13,500 gallons each. Fresh oil is continually pumped in through the charging line so a constant oil level may be maintained. A sketch of the construction of the high pressure stills appears above.

The tubes in the stills were ordered under the following specifications: steel boiler tubes, seamless construction, 4 inch outside diameter, walls 4 gage A.S.M.E. standard, cold finished. The tube which failed was in the lower tier of tubes in still No. 21. The fracture occurred about seven feet from the junction of the tube with the upper drum. When the failure occurred, buckling of the tube caused one end to pull out of the drum and also an adjoining tube was forced out allowing the oil to flow from two 4 inch openings in both the upper and lower drums. All tubes are tested at a pressure of about 660 pounds before they are placed in the stills. The tube which burst had been in the still since about August 19, 1924. Inspections of the tubes are made continuously while the stills are in operation. Peep holes are arranged so that tubes may be inspected on all sides. The operating force had changed shifts only about thirty minutes before the trouble was first noticed by the still man at which time the stills had been inspected by the foreman of the two shifts.

A picture of the section of the tube where failure occurred is reproduced on this page. The opening in the tube



Section of the tube showing how it failed

measures about 8.8 inches wide and 7.6 inches long with short splits at the ends of the opening, which increase the length of apparent failure to about 8.8 inches. The steel at the sides of the opening is necked down to a thin edge. There is a short split along the tube on each side of the break which looks very much like a welding seam. The surface of the splits look very much like welding scarfs although the tubes were supposed to be seamless. A few inches on each side of the burst the tube section has a diameter of about 4.2 inches although it was originally only 4 inches.

There are two tentative theories as to the cause of the failures. They are:

1. That the burst tube was one of welded seam construction which was accidentally included in the shipment of seamless tubes and that the failure occurred when the tube opened along a defective weld.

2. That a small leak occurred in an adjacent tube which permitted oil to spray out and this acting as a blowtorch upon the tube caused a section to be heated to a point where the still pressure was sufficient to cause the tube to blow out.

The plant officials seem certain that the failure was not due to a formation of coke in the tube with a resulting hot spot. They claim that the constant inspection would almost certainly allow a hot spot formed in this manner to be discovered before any damage could result. Their experience has been very satisfactory in regard to formation of coke in the tubes of high pressure stills.

Story of the Fire

The city fire department received the alarm from the plant at 2:50 p.m. and immediately responded with all pieces of apparatus (the ladder truck responded but returned to the station and the crew remained there in case of emergency) and the local fire brigade responded with hose and chemicals. Nothing could be done in extinguishing the fire which enveloped the stills and emerged from the concrete stack near. A wind from the south directed the flames from still No. 21, which was the source of the fire, to stills Nos. 22 and 23 on the north. A string of tank cars containing gasoline was located on the tracks just to the east of the burning stills and this was safely removed from the fire zone. The principal work of the fire department was in spraying surrounding construction with water and keeping it cool. Since there was no combustible material in the still construction itself the fire burned itself out when the oil supply from the stills was exhausted. Just previous to the fire the stills were being drained through the tar discharge line. The oil was being by-passed around the pump and the pressure in the stills was depended upon to force the oil out. The valves into the tar line header from all the stills were open. When the tube in still no 21 burst and reduced the pressure, the oil from stills Nos. 22 and 23 flowed into still No. 21 and added fuel to the flames. (Each of the stills normally contains about 13,000 gallons of oil, or a total for the battery of three of about

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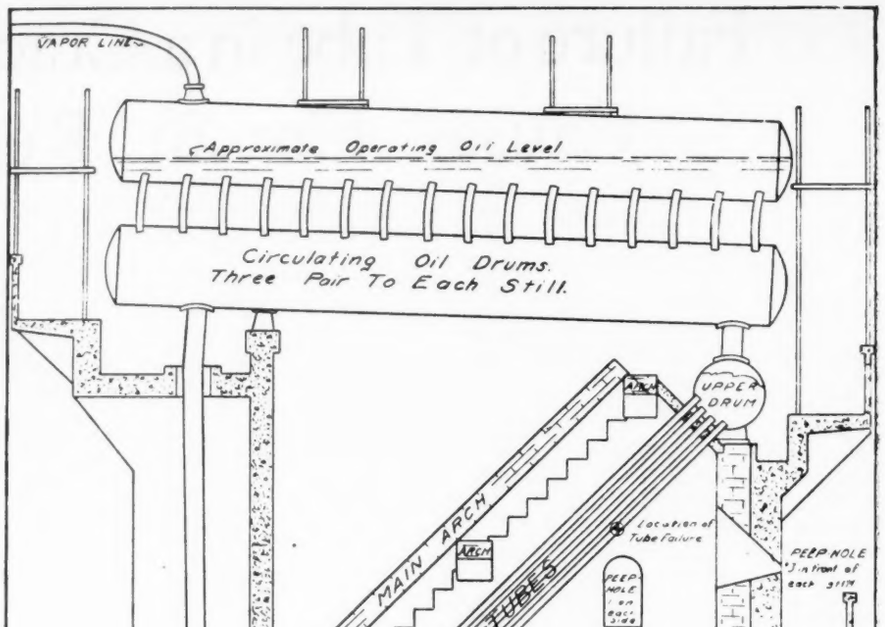

39,000 gallons. Of this amount about 29,500 gallons was unaccounted for after the fire and were presumed to have been burned. The remainder was recovered through the tar line. If the valve from still No. 21 into the tar line header had been closed immediately after the bursting of the tube, the result would have been the saving of the remaining oil in the stills, No. 22 and 23—something over 20,000 gallons. The closing of this valve was not thought of during the excitement of the fire and it was a matter of conjecture by the plant officials for some time as to just how the oil in stills Nos. 22 and 23 had been burned. At first it was thought that these stills must have failed also, but examination after the fire revealed no defects in their tubes or drums.

Property Loss

The fire resulted in a property loss of between $50,000 and $75,000. This was distributed over the following items: oils in stills, concrete construction around stills, ironwork around stills, insulation over stills, outlet of concrete smokestack.

Due to the fact that a southerly wind was blowing, still No. 22 was damaged somewhat more than still No. 21 where the fire originated. Concrete construction around the stills was badly spalled and unprotected ironwork was generally sagged out of shape from its own weight.

Conclusions

No known method of inspection or testing would probably have predicted a tube failure such as the one in this case with the resulting fire. Inspection methods used were standard and apparently no carelessness was involved. Property loss, however, could probably have been reduced if the valve from still No. 21 into the tar line header had been closed in time. There was sufficient time after still No. 21 started smoking so that all operators could have gone to a place of safety, but the warning was unheeded since an accident such as occurred was not expected and up to this time was unheard of.

SAN FRANCISCO.—The new building of the Tide Water Oil Sales Corp. at Seattle, Wash., is nearing completion and will be ready in about 60 days. This is the fifth building which has been erected by this company on the Pacific coast during the past year and a half, according to Harold R. Deal, western advertising manager. The company's western headquarters are at San Francisco.

Oil Patents Issued Recently

Production

Inside Pipe Cutter.—George F. Le Bus, Electra, Tex. Filed Feb. 17, 1925. No. 1,577,474.

Bailer.—Harry William Rhinelander, Palembang, Sumatra, East Indies. Filed Oct. 29, 1924. No. 1,577,541.

Method of Forming Pipe Couplings and the like.—Walter Nickles Rieger, Taft, Calif. Filed Dec. 16, 1922. No. 1,577,591.

Combination Core Barrel and Reamer.—Harry E. Becker, Brea, Cal., assignor to Regan Forge and Engineering Co., San Pedro, Cal. Filed Mar. 7, 1923. No. 1,577,605.

Method and Means for Pumping Deep Wells.—Carl B. Farris, Los Angeles, Cal. Filed Nov. 6, 1923. No. 1,577,616.

Pump Attachment.—Bert C. Fowlie, Huntington Beach, Cal. Filed Mar. 5, 1924. No. 1,577,706.

Means for Facilitating the Removal or Disassembling of Rotary Pump Mechanism.—Mahlon E. Layne, Houston, Tex., and Samuel N. Hall, South Padasena, Cal., assignors to Layne & Bowler Corp., Los Angeles, Cal. Filed June 23, 1924. No. 1,577,737.

Device for Use in Connection with Drilling Tools.—Harkey M. Macomber, Downey, and Homer H. Pyron, Fullerton, Cal. Filed July 23, 1923. No. 1,577,740.

Side-Tracking Tool.—Edward F. Raymond, Santa Fe Springs, Cal. Filed Mar. 5, 1925. No. 1,577,810.

Combination Roller Bit and Disk Structure.—Edward F. Raymond, Santa Fe Springs, Cal. Filed July 6, 1925. No. 1,577,811.

Grab.—George E. McCracken, Long Beach, Cal. Filed Oct. 20, 1924. No. 1,577,833.

Refining

Process for Separating Hydrocarbons.—Willard C. Averill, Jr., Houston, Tex. Filed Oct. 7, 1922. No. 1,577,440.

Process of Separating Wax from Lubricating Oil.—Earl Petty, Winfield, Kans., assignor to The De Laval Separator Co., New York. Filed Aug. 24, 1921. No. 1,577,852.

Process of Continuous Catalytic Distillation.—George L. Prichard and Herbert Henderson, Port Arthur, Tex., assignors to Gulf Refining Co., Pittsburgh, Pa. Filed Feb. 14, 1922. No. 1,577,871.

Art of Cracking Hydrocarbon Oils.—Edward W. Isom, Locust Valley, N. Y., assignor to Sinclair Refg. Co., N. Y. Filed June 19, 1925. No. 1,578,035.

Process of Distilling Oils with Volatile Catalysts.—Almer McDuffie McAfee, Port Arthur, Tex., assignor to Gulf Refg. Co., Pittsburgh, Pa. Filed Jan. 20, 1922. No. 1,578,049.

Process of Distilling with Aluminum Chloride.—Almer McDuffie McAfee, Port Arthur, Tex., assignor to Gulf Refg. Co., Pittsburgh, Pa. Filed Jan. 20, 1922. No. 1,578,050.

Process of Improving Oils.—Almer McDuffie McAfee, Port Arthur, Tex., assignor to Gulf Refg. Co., Pittsburgh, Pa. Filed Jan. 20, 1922. No. 1,578,051.

Miscellaneous

Air Preheater for Boiler Furnaces.—William M. Connery, Phila., Pa. Filed May 22, 1924. No. 1,576,410.

Process of Producing Gels for Catalytic and Absorbent Purposes.—Walter A. Patrick, Baltimore, Md. Filed Feb. 28, 1920. No. 1,577,186.

Method of Preparing Catalytic Agents.—Walter A. Patrick, Mount Washington, Md., assignor to The Silica Gel Corporation, Baltimore, Md. Filed Nov. 18, 1922. No. 1,577,187.

Method of Preparing Catalytic Agents.—Walter A. Patrick, Mount Washington, Md., assignor to The Silica Gel Corporation, Baltimore, Md. Filed Nov. 18, 1922. No. 1,577,188.

Process of Making Carbon Black.—Otis G. Messenger, Cranford, N. J., assignor to Standard Development Co. Filed Oct. 18, 1923. No. 1,577,481.

Process of Making Organic-Acid Soap from Mineral Oils.—Edward M. Hughes, Chester, Pa., assignor to Sun Oil Co., Philadelphia, Pa. Filed July 2, 1918. No. 1,577,723.

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Roster of Oil Associations

American Association of Petroleum Geologists. Secretary, C. E. Decker, care University of Oklahoma, Norman, Okla.

American Chemical Society, Petroleum Division, Pittsburgh, Pa. Secretary, George A. Burrell.

American Institute of Mining and Metallurgical Engineers, Petroleum Division. 29 West 39th St., New York. Chairman, F. Julius Fohs.

American Oil Men's Association, 624 South Michigan Ave., Chicago, Ill. H. G. James, Secretary and Manager.

American Petroleum Institute, 15 West 44th St., New York City. Secretary, R. L. Welch.

Arkansas-Tennessee Oil Marketers Association. Secretary, R. E. McKellar, care Diamond Oil Co., Memphis, Tenn.

Association of Oil Jobbers of Mississippi, Jackson, Miss. President, R. C. Clark, Independent Oil Co., Tupelo, Miss.

Association of Natural Gas Supply Men, 905 Oliver Bldg., Pittsburgh, Pa. Secretary, William B. Way.

Association of Natural Gasoline Manufacturers, 504 A-B Cosden Bldg., Tulsa, Okla. Secretary, A. V. Bourque.

Association of Producers of Petroleum in Mexico, 17 Battery Place, New York, Director, Guy Stevens.

Cincinnati Oil Club. Secretary, E. V. Weber, care Eureka Oil Co., Cincinnati. Ohio.

Detroit Petroleum Club. Secretary, Frank McSweeney, Cities Service Oil Co., General Motors Bldg., Detroit, Mich.

Eastern Kentucky Oil Producers Association, Ashland, Ky. Secretary, David Browning.

Georgia-Alabama Independent Petroleum Marketers Association. Secretary-treasurer, W. L. Moore, Wofford Oil Co. of Georgia, Atlanta, Ga.

El Paso Petroleum Club. President, A. L. Behringer, Home Oil Co., El Paso Tex.

Gulf Coast Independent Oil Producers Association, 403 Goggan Bldg., Houston, Tex. Secretary, T. L. Smith, Jr.

Illinois Petroleum Marketers Association Secretary, G. A. Primm, Sunbeam Oil Co., and Cloverleaf Oil Co., Springfield, Ill.,

Independent Oil Men's Association of Massachusetts. Secretary, F. E. Bergfors, care Quincy Oil Co., Quincy Adams, Mass.

Independent Oil Men's Association of New England. Secretary, I. H. Farrar, Berkshire Oil Co., Worcester, Mass.

Independent Oil Marketers Association of Atlanta, Ga. Secretary, J. H. Smitha, care Community Oil Co., Atlanta, Ga.

Independent Petroleum Marketers Association of California, Inc., 930 Marsh-Strong Bldg., Los Angeles, Calif. Secretary and Manager, H. H. Maxson.

Ohio Petroleum Marketers Association. 616 Commerce Bldg., Columbus, O. Secretary, C. A. Laubach. Field Secretary, W. C. Hughes.

Indiana Independent Petroleum Marketers Association. Field Secretary, Sam T. Hurd, Connersville, Ind.

Iowa Independent Oil Men's Association, 225 Fifth St., Des Moines, Ia. Secretary, M. L. Long.

Kansas Oil Men's Association, 423 First National Bank Bldg., Wichita, Kan. Secretary, J. A. Motter.

Kentucky Oil Men's Association, Ind., Trust Co. Bldg., Lexington, Ky. Secretary, Thomas S. Scott.

Michigan Independent Oil Men's Association, 220 Ashton Bldg., Grand Rapids, Mich. Secretary, P. R. Kempf. Field Secretary, James A. Gilmore.

Mid-Continent Oil & Gas Association, 505 Cosden Bldg., Tulsa, Okla. Secretary, Harry H. Smith.
Kansas-Oklahoma Division, 505 Cosden Bldg., Tulsa, Okla. Secretary, Harry H. Smith.
Louisiana-Arkansas Division, 724 Giddens-Lane Bldg., Shreveport, La. Secretary, Joseph B. Elam.
Texas Division, P. O. Drawer 1567, Dallas, Texas. Secretary, J. P. Laney.

Minnesota Petroleum Association, 638 Builders Exchange, Minneapolis, Minn. Secretary, Paul E. Hadlick.

Missouri Oil Men's Association, 627 New York Life Bldg., Kansas City, Mo. Secretary, George S. Allee.

Montana Oil & Gas Association, Helena, Mont. Secretary, C. C. Adams.

National Association of Independent Oil Producers, 414 Atlas Bldg., Tulsa, Okla. President, William H. Gray.

National Petroleum Association, Munsey Bldg., Washington, D. C. Washington Counsel, Fayette B. Dow.

National Petroleum Marketers Association, Blum Bldg., 624 South Michigan Ave., Chicago., Ill. President, L. V. Nicholas.

Natural Gas Association of America, 905 Oliver Bldg., Pittsburgh, Pa. Secretary, Guy F. Batchelor.

Natural Gas & Petroleum Association of Canada. Chatham, Ont., Canada. Secretary, S. A. Morse.

Nebraska Independent Oil Men's Association, 416 Terminal Bldg., Lincoln, Neb. Secretary, C. M. Sutherland.

New York State Oil Producers Association, Wellsville, N. Y. President, Lewis H. Thornton.

New York State Petroleum Marketers Association, 1201 So. Salina St., Syracuse, N. Y. Secretary to be elected.

North Central Ohio Petroleum Club, 489 Cherry St., Marion, O.

North Dakota Petroleum Association. acting head, H. M. Wilson, care International Oil Co., Minot, N. D.

Northwest Independent Oil Association. Secretary, C. H. Brown, care Arro Oil & Refining Co., Lewistown, Mont.

Northwestern Pennsylvania Oil Producers Association, 78 Main St., Bradford, Pa. President, A. Edward Booth.

Ohio Gas & Oil Men's Association, 811 First National Bank Bldg., Columbus, O. Secretary, William H. Thompson.

Oil Men's Association. Secretary, F. W. Mitchell, Clinton Oil Co., Cleveland, O.

Oil Trade Association of Philadelphia. Inc. Secretary, Howard M Rogers, 123 Arch St., Philadelphia, Pa.

Oil Trades Association of New York, Inc., 35 So. William St., New York City. Secretary, Joseph C. Smith.

Oklahoma Oil Jobbers Association, 416 Fidelity National Bank Bldg., Oklahoma City, Okla. Secretary, C. M. Kinney.

Oklahoma Oil Marketers, Inc., P. O. Box 755, Enid, Okla. Secretary, W. W. Blackburne.

Okmulgee District Oil & Gas Association, Okmulgee, Okla. Secretary, Charles I. O'Neill.

Osage Oil & Gas Lessees Association, 505 Cosden Bldg., Tulsa, Okla. Secretary, Harry H. Smith.

Pennsylvania Grade Crude Oil Association, 209 Chambers Bldg., Oil City, Pa. Secretary, R. J. Alexander.

Petroleum Club of Central New York. Secretary, George R. Casey, Crown Oil Co., Syracuse, N. Y.

Rocky Mountain Independent Oil Men's Association, (formerly Colorado Petroleum Club), 412 Commonwealth Bldg., Denver, Colo. Secretary, A. Overholtzer.

Rocky Mountain Oil & Gas Association, P. O. Box 1559, Casper, Wyo. Secretary C. W. Sparr.

South Dakota Independent Oil Jobbers Association, Sioux Falls, S. D. Secretary, F. H. Buehler, care Dacotah Oil Co., Madison, S. D.

Southern Petroleum Jobbers Association. Secretary, D. C. Patterson, Camden, S. C.

St. Louis Petroleum Club, 1430 So. Vandeventer Ave., St. Louis, Mo. Secretary, R. F. Leinberger, Blackmer Pump Co., St. Louis, Mo.

Springfield Petroleum Club. Secretary Ross Lock, c/o Lock Bros., Oil Co., Springfield, Ill.

State Executives Club. Secretary, Paul E. Hadlick, Minnesota Petroleum Association, 638 Builders Exchange, Minneapolis, Minn.

Technical Club of Oklahoma, 208 Fisher Bldg., Tulsa, Okla. Secretary, R. I. Ginter.

Tennessee Independent Oil Men's Association, Secretary, Tom S. Cooper, c/o Estes-Cooper Oil Co., First St. & L. & N. R. R., Nashville, Tenn.

Texas Independent Oil Men's Association. Secretary, L. A. Greene, care Radio Petroleum Co., Fort Worth, Tex.

West Virginia Oil Association, Fairmont, W. Va. Secretary, Edwin Robinson.

West Virginia Oil Marketers Association. Secretary, D. E. Frierson, Frierson Equipment Co., Charleston, W. Va.

Western Petroleum Refiners Association, 504 Cosden Bldg., Tulsa, Okla. Managing Director, Howard Bennette.

Wisconsin Independent Oil Jobbers Association. Field Secretary, R. A. Overholser, Gay Bldg., Madison, Wis.

Wyoming Petroleum Club. Secretary, G. H. O'Donnell, 847 So. Lincoln St., Casper, Wyo.

New Outlet For Crude From San Juan Basin

DENVER, April 10.—Continental Oil Co. has started construction of a 4-inch pipe line 95 miles long from Rattlesnake and Table Mesa fields of northwest New Mexico to Gallup, on the A. T. & S. F. railway. Humble Oil & Refining Co. will ship part of the crude oil to its Coastal refinery.

The move is an important one to that part of New Mexico, as heretofore only such quantity of this extremely high gravity oil as could be marketed locally was produced. Rattlesnake crude tests as high as 64° A. P. I. and, while no comprehensive production test has been made of the 17 wells on Rattlesnake and Table Mesa, it is believed they will at least operate the new line to its capacity of 5,000 barrels daily, for a time. There is still considerable room for drilling.

The Sante Fe Co., which bought the Rattlesnake dome at public auction of Navajo leases more than two years ago, made an operating agreement with the Continental through which the latter company does the drilling.

TULSA—G. M. Brigham, general manager of the North American Car Corp.'s Tulsa branch, has been elected a vice president of the Traffic Club of Tulsa. The name of this organization has just been changed from the Transportation Club of Tulsa and its scope of activities considerably enlarged.

Describes Anti-Knock Cracking Process

CLEVELAND, April 9.—C. A. Middleton of the Kent-Middleton Refining Co., Corsicana, Tex., sends in the following statement about a cracking plant, operating on the Richey process, that has just been placed in operation at the refinery:

"The Kent-Middleton Refining Co. has just placed in operation one unit of the Richey cracking process.

"This process was developed and the patents are owned by the Motor Fuel Corp. of Franklin, Pa., and was proven in over two years commercial operation before being offered to the refining industry. The standard unit produces 200 barrels of finished anti-knock motor fuel per 24 hours direct from the cracker. Motor fuels produced by this process from distillates with low sulfur content need no further treatment and leave the cracker in a marketable state.

"The process is straight liquid phase, operating under 600 pounds pressure and has several unique features that practically eliminate the formation of excessive fixed gas and carbon. By the use of a series of heat exchangers and heat exchanger type stills, the cracked oil is cooled to a low temperature before expansion and is then reheated and fractionated without the addition of any heat except that originally contained in the cracked oil.

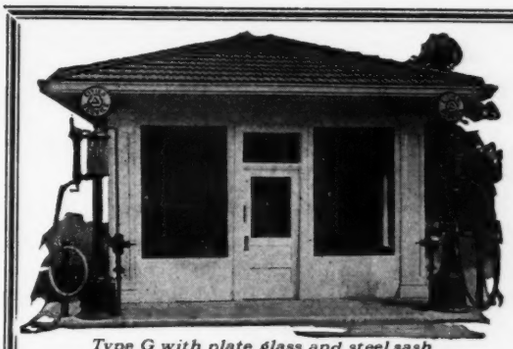
"By cooling before expansion none of the oil is subjected to a cracking temperature in the vapor phase, thus eliminating the secondary reaction that is the cause of excessive carbon formation. High uniform velocity is maintained throughout the entire system to the expansion valve and practically no carbon is deposited in the system.

"Running on gas oil the ultimate yield is between 80 per cent and 85 per cent finished motor fuel and contains a high percentage of the compounds that give it the anti-knock characteristics that are so much in demand. Simplicity of operation and safety are marked features of this process, there being less than 9 barrels of oil under pressure in the entire system at any time."

Palmer Corp. to Build Gasoline Plant

HOUSTON, April 9.—The Palmer Corp., with offices at Shreveport, is arranging to build a raw natural gasoline plant in the Cotton Valley, La., field to recover gasoline from wells drilled into the heavy gas found in the Trinity formation below 4000 feet. The size and type of plant to be constructed has not been announced. Gas from the Trinity sand at Cotton Valley tests about seven and a half gallons of raw natural gasoline per 1000 cubic feet.

SISTERSVILLE, W. VA.—A service station is being erected here for Mr. Morris. He will also handle Buick cars.



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Your own men can erect them.

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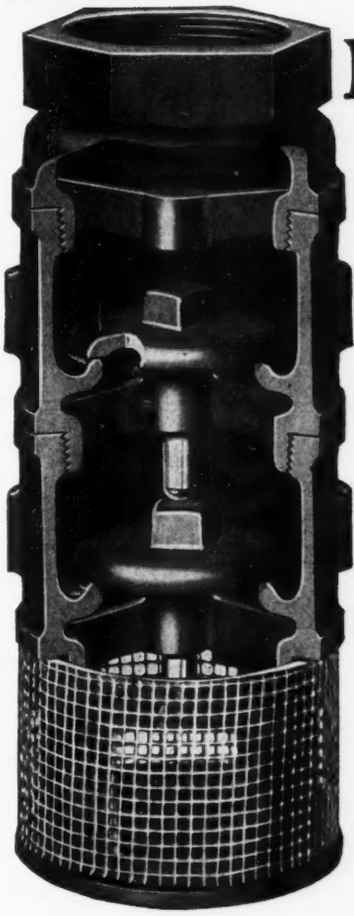

VERY shortly after the Buckeye Foot Valve was put on the market, it won the approval of the leading oil companies, pump and tank manufacturers.

Approval soon turned into *enthusiasm.* The fact that this valve has been constantly growing in popularity is the best possible evidence of its value.

It is made with a *flat* seat and a *flat* disc—the best design ever developed for holding gasoline. The discs are the only movable parts. The entire valve is made of the very highest grade of brass.

There are many other Buckeye Products for Service Stations, that you should know about. The coupon below will bring you complete information.

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Use TRUSCON Steel Doors for Safety and Permanence

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Make the doorways firesafe. All too often they are left unprotected, yet they are the most vulnerable points. You can have durable, fireproof, rust-resistant copper steel doors at no greater cost than for ordinary doors. And besides fire safety you gain permanence. Truscon Steel Doors always operate easily. They will not warp, swell or stick. Truscon Steel Doors are furnished in all the standard sizes as well as in special dimensions to meet your needs.

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Fortify for Fire Fighting

Because they are usually beyond the protection of city fire departments, oil refineries and other property of oil producing and storing companies, are doubly in need of fire protection.

Every plant fire chief knows that the only way to extinguish a fire in volatile liquids or inflammable substances, is to smother the flame.

That is what **PHOMENE** does.

No inflammable substance can burn when covered with a blanket of **PHOMENE** foam—a mass of durable foam bubbles filled with carbon dioxide gas. This foam floats on the surface of burning liquids and coats the surface of solids—cutting off the oxygen and extinguishing the fire.

PHOMENE (Foam Type) **2½ Gallon Extinguishers** and **40 Gallon Engines** are effective on all classes of fires, especially oil, gasoline, naphtha, enamel, tar, wax, grease, shellac, lacquers, inflammable solvents and chemicals. *Our new two unit foam charge in powdered form is convenient.* Wherever quantities of materials of an oily or highly inflammable character are manufactured, used or stored, these devices are best to install. *They prevent small fires from becoming big ones.*

Equip your trucks with 1 quart or 1½ quart Improved **PYRENE** Extinguishers.

Demonstrations arranged—any time—anywhere.

Phomene (Foam Type) 2½ Gallon Extinguisher

The Pyrene Manufacturing Co.
Newark, N. J.

Type D-3 P Outdoor or Yard 40 Gallon Engine

HERE & THERE

National Petroleum News

R. T. Gilpin, grease sales manager of the Tide Water Oil Sales Corp., New York City, is now on the Pacific coast, and is traveling up and down the coast, attending and speaking at various meetings of company representatives.

W. C. Pettingell, western sales manager, is accompanying Mr. Gilpin. He has just completed a trip through the Rocky Mountain states calling on Veedol distributors.

* * *

J. B. Moffett, who has been credit manager at the Minneapolis office of the Pure Oil Co., Columbus, O., for the past several years, resigned on March 18. He was succeeded by A. G. Elliott, who has been credit manager at Tulsa for several years. James Bottomly, who was formerly credit manager for the Oklahoma Producing & Refining Co., succeeds Mr. Elliott at Tulsa.

* * *

S. R. Scivally, Mid-Continent representative at Tulsa for the Crown Central Petroleum Corp., returned recently from a trip through Kansas and a part of Missouri calling on refiner friends and wholesale jobbers and compounders. Mr. Scivally was out boosting the company's new line of filtered zero lubricating oils made at its Houston refinery.

* * *

J. K. Bennett, proprietor of the Slayton Auto Co., Slayton, Minn., and Mrs. Bennett, will return soon from St. Petersburg, Fla. Mr. Bennett is recuperating from a severe illness. Enroute home they plan to visit several refineries in Oklahoma and Wyoming.

* * *

Frank T. Pickrell, president of the Texon Oil & Land Co., El Paso and Big Lake, Tex., returned to Big Lake recently from New York City where he has been since January. He was accompanied by Mrs. Pickrell.

* * *

Edward Bush, sales manager for the Crown Central Petroleum Corp., New York City, spent a day recently at Tulsa, calling on S. R. Scivally, in charge of the company's Mid-Continent purchasing and sales office.

* * *

H. Moore, formerly with the Baytown, Tex., refinery of the Humble Oil & Refining Co., Houston, is now distributing Sinclair products in Washington and Fayette counties, Texas.

* * *

James E. Dunn, president of the Gibson Oil Corp., Amarillo, Tex., is at New York City on company business.

* * *

M. E. Coulter has been appointed manager of the new bulk plant of the Pure Oil Co., at Richmond, Ind.

P. V. Barthalow, who has been manager of the Cincinnati, O., grease plant of the Pure Oil Co., Columbus, O., has been transferred to the company's refinery at Muskogee, Okla. Charles C. Clark, formerly with the control laboratory at Columbus, succeeds Mr. Barthalow at Cincinnati.

George D. Bowers who was recently appointed distribution manager in charge of refined oil sales for the Simms Oil Co., Dallas, Tex. Mr. Bowers has been for 14 years in the oil industry and was, previous to his present position, bulk sales manager for the Panhandle Oil & Refining Co., Dallas. He is a director of the Texas Independent Oil Men's Association, Fort Worth.

J. A. Sortori, superintendent of the West Tulsa plant of the Producers & Refiners Corp., Tulsa, has gone to Denver to assume charge of vice president Crawford's desk for three months. Mr. Crawford is recuperating from a nervous breakdown.

* * *

C. M. Lamason, southwestern sales manager at Beaumont, Tex., for the Pure Oil Co., Columbus, O., recently returned from Florida and Mississippi points where he had been attending to company matters.

* * *

J. M. Varney, who represents the American Oil Works Co. at Glens Falls, N. Y., recently visited the company's headquarters at Titusville, Pa.

Paul Sauer, Jr., central advertising manager at Chicago of the Tide Water Oil Sales Corp., New York City, recently addressed the Woman's Advertising Club of Milwaukee on the subject of foreign trade. Mr. Sauer has had several years of experience in export work.

During the past week Mr. Sauer appeared before the Toledo Advertising Club and discussed "Merchandising Advertising."

* * *

F. M. Rowles, who has been for the past four years western manager at San Francisco of the Tide Water Oil Sales Corp., New York City, has just been appointed vice president, in charge of the company's western department operations. Mr. Rowles continues as western manager, according to Harold R. Deal, western advertising manager.

* * *

A. F. Maxson, plant engineer at Tulsa of the Sun Oil Co., Philadelphia, Pa., recently made a trip through Texas, Arkansas and Louisiana inspecting absorption gasoline plants and reports good results from a sales stand point, according to C. A. FitzGerrell, manager of the motor oil department.

* * *

Henry W. Pratt, who has been superintendent of bulk plants at Portsmouth and Manchester, N. H. for the Mexican Petroleum Corp., New York City, has been promoted to district sales manager, with offices at Park Square Bldg., Boston.

* * *

Capt. J. F. Lucey, president of Lucey Petroleum Co., Dallas, Tex., lectured at the Agricultural and Mechanical College of Texas on April 9, on the subject of "Drilling and Producing Problems."

* * *

C. H. Griffith, who has been for several years an associate of Ivy L. Lee, New York City, has been made sales promotion manager of the Pure Oil Co., Columbus, O.

* * *

Roy B. Jones, president of The Panhandle Refining Co., Wichita Falls, Tex., has returned from a business trip to Houston and Dallas.

* * *

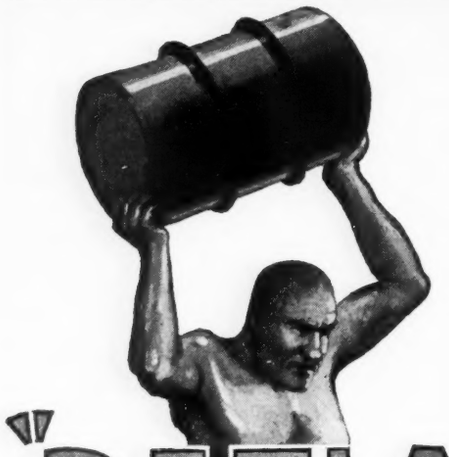
George C. Morris has succeeded S. M. Felton, Jr., as manager of the eastern distributing division at New York City of the Pure Oil Co., Columbus, O.

* * *

G. L. Ferguson, newly appointed general superintendent of the Gibson Oil Corp., Amarillo, Tex., has taken up his new duties at Amarillo.

* * *

Harry Logan, president of the United Refining Co., Warren, Pa., has left for a two months' trip to South Carolina.



"DEFIANCE"

A Good Combination

If a barrel doesn't "stand-up", all the care and money spent on the contents of that barrel are jeopardized.

You are very careful in the manufacture of the products that bear your name. The condition in which these materials reach the customer depends upon the shipping package.

We use the same care in making Defiance Steel Barrels that you do in making your products.

Your products in a Defiance Steel Barrel make a business building combination.

The American Steel Package Co.
Defiance, Ohio

THE GEOLOGY OF PETROLEUM

is the name of the book written by William H. Emmons, which goes into detail describing the more important fields such as the Appalachian, Lima-Indiana, Illinois, Mid-Continent, Gulf Coast of Texas and Louisiana, Rocky Mountain, Canadian, Mexican and foreign fields.

It contains 610 pages, with 254 maps and illustrations, and may be purchased for $6 from—

National Petroleum News
824 Caxton Building **Cleveland, Ohio**

Micro-Paleontologists Plan Their Own Society

Staff Special

HOUSTON, April 9.—The organization of micro-paleontologists into a division of their own, to be affiliated with the American Association of Petroleum geologists, is now under way for the purpose of furthering this branch of work as applied to petroleum science.

A proposal to bring about publication of paleontological treatises in volumes to be issued quarterly has been referred to the executive committee of the A. A. P. G., and the organization of a paleontological society within the association is gathering form.

Three members of the association are now working on the listing of workers especially interested in microscopic work, this committee consisting of Fred B. Plummer, now stationed at Fort Worth for the Amerada Petroleum Corp.; Professor F. L. Whitney of the University of Texas; and Mrs. Esther Richards Applin of the Rio Bravo Oil Co., Houston.

Visitors at the Dallas meeting of the association learned of a departure in microscopic work, which was referred to by Dr. David White of the National Research Council. The departure involves use of a little instrument called a microfurnace. By means of this instrument heat is applied to formations under the microscope, such as oil shale, and the changes brought about in the substance studied may be watched from one stage to another. Changes in composition under heat may be noted and the temperatures that produce them studied.

Veteran Standard Official Quits Kansas Company

NEODESHA, KAN., April 10.—On March 31 Thomas Black of Neodesha resigned from the Standard Oil Co. (Kansas) as vice-president and director.

He retires from the oil business for a rest. He began at Franklin, Pa., with The Atlantic Refining Co. back in 1881. He later worked for the same company at Philadelphia, and in 1892 came to Whiting, Ind., with the Standard Oil Co. of Indiana. In 1897 he was sent to Neodesha to operate the two-still refinery that was running the production of the Kansas field and he remained there for 29 years and saw the plant grow to its present capacity of 12,000 barrels of crude daily.

His fellow employes presented him with a handsome gold watch properly inscribed and soon thereafter he and his wife left for their new home in Kansas City. They expect to do considerable traveling.

COLUMBUS, O.—An office in the Western Bldg., at Amarillo, Tex., has been opened by the Pure Oil Co. The company has considerable acreage in that field.

New Oil Station Construction

Thomaston, Ga.—Two bulk plants will be erected here, one by Sinclair Refining Co. and one by Pan American Southern Petroleum & Transport Co.

* * *

Woodstock, Ill.—Bauer & Bauer, owners of two filling stations at Crystal Lake, Ill., seek permit for another filling station.

* * *

Missoula, Mont.—Hart Refineries will erect filling station, according to C. W. Hart, manager.

* * *

Hawkinsville, Ga.—Wofford Oil Co., Atlanta, Ga. leased property here for filling station.

* * *

Kenosha, Wis.—Donnelly-Hidlay Oil Co. will begin construction of filling station April 1.

* * *

Coeur d'Aline, Ida.—Continental Oil Co., Denver, Colo. is completing filling station here.

* * *

Redfield, S. D.—C. O. Swanson, Aberdeen, S. D. leased property for filling station.

* * *

Texarkana, Ark.—G. H. Brooks completing filling station and auto repair shop.

* * *

Portsmouth, Va.—Standard Oil Co. of New Jersey seeks permit for filling station.

* * *

Indian River City, Fla.—Sinclair Refining Co. completing filling station here.

* * *

Ladysmith, Wis.—Standard Oil Co. of Indiana completing filling station here.

* * *

Camp Point, Ill.—Roxana Petroleum Corp. bought site for service station.

* * *

Burwell, Neb.—LeRoy Anderson leased property for filling station.

* * *

Omaha, Neb.—U. S. Oil Works is completing service station here.

* * *

Lancaster, O.—Carpenter Oil Co. purchased site for filling station.

* * *

Madison, Ind.—Tri-Point Oil Co. building filling station here.

* * *

Springfield, Mo.—Barnsdall Corp. to build filling stations here.

* * *

Britt, Ia.—Filling station is being erected by Elwin Valley.

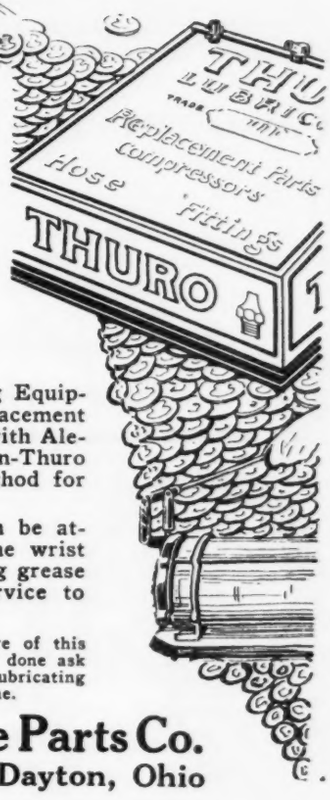
* * *

Pine Bluff, Ark.—Super-Service Co. building filling station.

* * *

Venturetown, Pa.—Langham Oil Co. building filling station.

Turning Grease into Gold!



SOMEONE has said that "grease keeps things going." In other words—"Lubrication is the law of progress—the arch enemy of friction." Millions of car owners never think about lubrication until they hear a squeak. But think what happens before that squeak appears!

A Larkin-Thuro Grease Compressor is an innocent looking tool but you'll find it a mighty important part of your equipment when you begin to count your earnings at the end of the day.

Larkin-Thuro High Pressure Lubricating Equipment is made and sold for repair and replacement on all makes of cars and trucks equipped with Alemite and Zerk Lubricating Systems. Larkin-Thuro Fittings furnish an easy and positive method for keeping cars thoroly lubricated.

A Larkin-Thuro Grease Compressor can be attached in a twinkling,—then a turn of the wrist and a push of the handle and you're turning grease into gold—profits for you and better service to your customer.

Every Filling Station should be getting their share of this gold. If you want to know how this can be easily done ask your Jobber to tell you about Larkin-Thuro Lubricating Equipment,—or write us, giving your Jobber's name.

The Larkin Automotive Parts Co.
2144 Home Ave. Dayton, Ohio

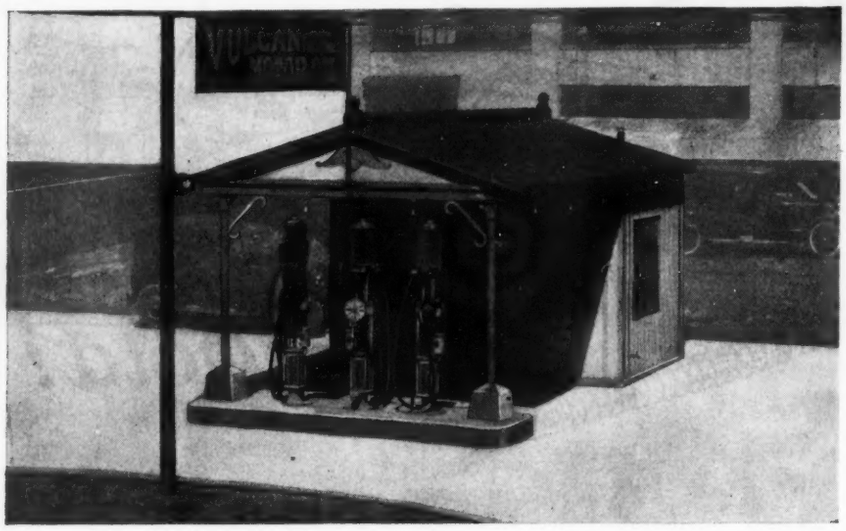
Larkin-Thuro Lubrication keeps the up keep down

Gasoline And Other Motor Fuels

by Ellis and Meigs, is a book which gives a complete survey of the field and a description of practically every process of prominence.

The price of the book is $10. Just send us your check and we will mail a copy of it to you.

NATIONAL PETROLEUM NEWS
807 Caxton Bldg., Cleveland, Ohio



Gasoline and Oil Filling Stations

and Steel Buildings

We manufacture the simplest to the most elaborate Stations. Put your own individuality in your Filling Stations—Let us help you work this out.

The Edwards Manufacturing Co.

524-544 Eggleston Ave. **Cincinnati, Ohio**

Cincinnati Advertising Globes

Always Look New

There is nothing to wear off, rub off or otherwise deface the cheerful countenance of a Cincinnati Advertising Globe Face.

The lettering and design are as permanent as the glass itself—because the coloring matter is really a ceramic (glass) material which is fused with the globe face under terrific heat.

Permanency is one of the factors that makes Cincinnati Advertising Globes the lowest priced globe you can buy.

The CINCINNATI ADVERTISING PRODUCTS COMPANY

1101-1107 York St.
Cincinnati, Ohio

4 Points!

1. Glass Colors Fired In. As permanent as the glass itself—more brilliant than paint.
2. Scientific Annealing Process. Anti Breakage insurance.
3. Delivery When Wanted. Any quantity.
4. Low Initial Cost—Least Final Cost—Less Replacement.

Industrial Notes

Standard Turbine Corp., Scio, N. Y. has published bulletin No. 5 describing small turbo generator sets in sizes from ½ k. w. to 10 k. w.

* * *

The Sanderson-Cyclone Drill Co. Orrville, O., manufacturer of marine, industrial, truck and tractor engines, purchased on Jan. 1 the entire motor division of Wellman-Seaver-Morgan Co., Cleveland, O., which was operated at Akron, O. All drawings, patterns, special machinery, tools, etc. were included. Most of the former heads of the engineering and manufacturing departments of the division were retained by the Sanderson company, including John Riise, formerly chief engineer of Wellman-Seaver-Morgan, who is largely responsible for the design and development of W-S-M engines.

* * *

C. C. Fredericks of St. Louis has been made President and general manager of the reorganized St. Louis Pump & Equipment Co. Mr. Fredericks was one of the founders of the company and before his connection with it was with the S. F. Bowser Co., Fort Wayne, Ind. Mr. Fredericks has engaged Sherwood Hinds as vice president and chief engineer. Mr. Hinds has long experience in the designing and manufacturing of gasoline pumps and has patented several inventions in connection with this equipment.

* * *

K. K. Wyatt, formerly connected with the Sinclair Refining Co. as assistant chief engineer, on March 15 joined the staff of the Celite Products Co. in the capacity of petroleum engineer to handle the refinery insulation department. Mr. Wyatt has had long experience with the problems that all refiners face and he is now out traveling about the refining centers to make the acquaintance of the operating men and offer his help in overcoming their insulation troubles. Mr. Wyatt's headquarters are in the Monadnock building, 53 W. Jackson boulevard, Chicago.

* * *

Ingersoll-Rand Co., New York, has appointed Harlan A. Pratt as manager of its oil and gas engine department. Mr. Pratt was formerly for several years with the sales departent of the Westinghouse Electric & Manufacturing Co., and later became sales manager of the Atlantic Elevator Co., which was exclusive agent in the east for Westinghouse elevators. For the past three years he has been sales manager of the Elevator Supplies Co., Hoboken, N. J.

* * *

Pyrograph Advertising Sign Corp. of the United States, Baltimore, Md., has announced the development of a new process of glass decoration. The process

for which this company holds patents are said to permit even colors, positive matching, and perfect reproduction of designs. These designs are fused into the glass insuring perpetual wear, unless the glass is shattered, the company claims.

Industrial Catalogues

Champion Pneumatic Machinery Co., Chicago.—Catalog No. 18 describing and illustrating its ball bearing air compressors and service towers and bulletin PS-101 covering its paint spray equipment and accessories, are just off the press.

Construction features and specifications of various types of compressors are included in the 32 page booklet devoted to that subject.

* * *

Associated Supply Co., Los Angeles.—Catalog B, published recently, is devoted to the Granberg petroleum meter designed for the accurate measurement by volume of gasoline, distillate, kerosene, fuel oil and lube oils. The meter is adaptable for use under low heads. The catalog furnishes specifications, construction features and gives information on the methods of adjustment, instructions for installations and care of the meter.

* * *

Crouse-Hinds Co., Syracuse, N. Y., manufacturer of electrical products, has published bulletin No. 2083 and folder No. 33 on its short range imperial floodlight projectors, which shows types and construction features. The bulletin also includes illustrations of their use at filling stations and other industrial plants.

Moves Naturals In Train Load

TULSA, April 12.—Sinclair Oil & Gas Co. made its first trainload shipment of natural gasoline from its Covington plant in the Garber field during the past week. The train of 32 cars made the trip from Covington to Houston, Tex., in 36 hours despite the fact that all cars were new and several hot boxes caused delays.

The Sinclair plant at Covington now has the largest production of gasoline of any plant in the world. Its current production is 80,000 gallons per day. In the future gasoline will be shipped to Sinclair refineries in train load lots from this plant. The schedule will call for two trains each week.

TULSA, April 12.—Sinclair Oil & Gas Co. is erecting a six unit compression plant in the Madison-Browning pool which will be ready to start making gasoline in about 30 days. The plant is planned to handle about 3,500,000 cubic feet of gas per day and a production of 7000 to 8000 gallons is expected.

—write for a copy of the new DIAGRAM BOOK

ECONOMY BARREL RACKS

Portable and Stationary —Standard Equipment

Economy Engineering Co.
2687 W. Van Buren St., Chicago
342 Madison Ave., New York

GULF Refining Company

General Sales Offices
PITTSBURGH, PA.
District Sales Offices
New York, Houston, Atlanta, Boston, New Orleans, Tampa, Philadelphia

REFINERS OF OKLAHOMA TEXAS AND LOUISIANA

PETROLEUM

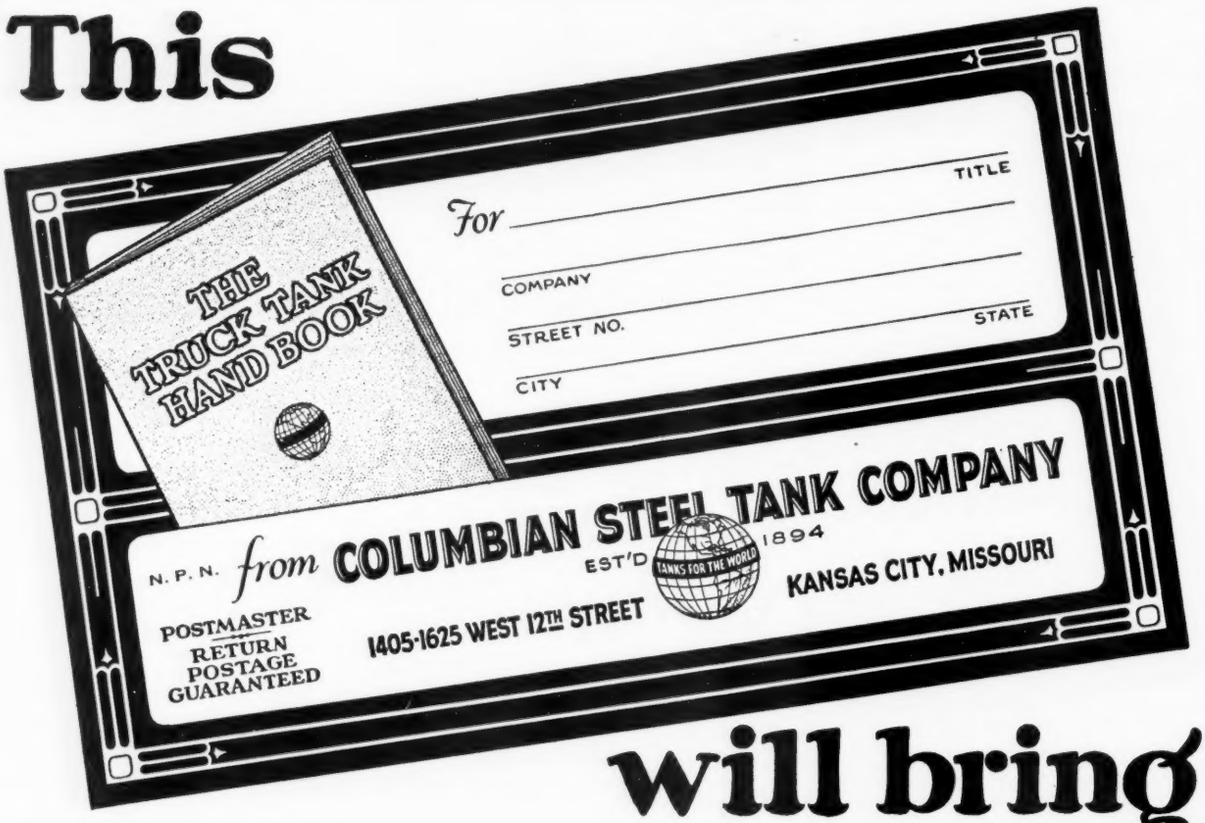
REFINED OIL
GASOLINE
NAPHTHA
GAS OILS
PARAFFINE WAX
ASPHALT

Fuel Oil--Lubricating Oils

CYLINDER ENGINE
CORDAGE

RED AND PALE PARAFFINE OILS

This



will bring

The Truck Tank Hand Book

Many inquiries have come in asking the price of The Truck Tank Hand Book. There is no charge. It is FREE to all interested parties in the oil industry.

Just fill in the fac-simile address label reproduced above, attach it to your letter head and mail to us. If The Hand Book is desired for others in your organization, list their names, titles and addresses on the letter head. But please limit this list to key men on your staff because the first edition is going fast and we do want it to go around. Thanks.

The Truck Tank of tomorrow is here today!

COLUMBIAN STEEL TANK COMPANY

EST'D 1894

TANKS FOR THE WORLD

1405-1625 WEST 12TH STREET KANSAS CITY, MISSOURI

ON THE LAZY BENCH

National Petroleum News

Qualified

He entered the office, hat in hand.

"I've come in answer to your advertisement for a 'andy man," he informed the manager.

The latter looked him over. "Well, what are your qualifications?" he asked at length.

"Just that I'm very 'andy, sir," replied the man. "I lives next door to 'ere."

—London Tit Bits.

❦ ❦ ❦

Wages of Virtue

"Where are you going, son?"

"Going to the circus, father."

"Where did you get the money?"

"Mother gave me a quarter for telling her that I saw you kissing the maid."

"Here's half a dollar, son; go back and tell her what an awful liar you are."

—Independent Topics

❦ ❦ ❦

Overhead at Our Easton Station

Two colored gentlemen engaged in conversation:—

Big Boy: "How cum you say my gal's a silent Belle?"

Little Boy: "'Cause last night I kissed her and she never told."

—Pennico News

❦ ❦ ❦

"Now that you've seen my son and heir," said the proud young father, "which side of the house do you think he resembles?"

"Well," said his astonished bachelor friend, "his full beauty isn't developed yet, but surely you don't suggest that he—er—looks like the side of a house, do you?"

❦ ❦ ❦

An inspector asked a class with what weapon Samson slew the Philistines. He got no reply.

"What is this?" he asked, pointing to his jawbone.

"The jawbone of an 'ass!" was the prompt reply of a scholar.

❦ ❦ ❦

"Tom Johnson's been arrested for being full, and wants some one to bail him out."

"Jerry: "My gracious! he's not as full as that, is he?"

❦ ❦ ❦

New silk stockings are so thin that it is possible to read the newspaper through them. Most men, however, are content to glance at a few lines.

❦ ❦ ❦

"Edith positively talks with her eyes."

"And I suppose when she feels like swearing she just gives a cursory glance."

Who's Next

The Missus:—"John, do you know that it has been a whole week since you have kissed me?"

Absent Minded Husband:—"My goodness, who have I been kissing all the week."

—The Look Box

❦ ❦ ❦

Remindful of a Wife

Wife (in back seat)—Henry, dear, you mustn't drive so fast.

Husband—Why not?

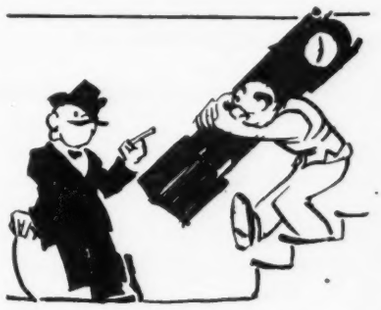
Wife—The motor policeman who has been following us won't like it.

—Independent Topics

❦ ❦ ❦

Arthur: "Is golf really good for the health?"

Albert: "It's just the same as medicine, only instead of swallowing the pill you knock it around."



The moving van was in front of the door, and one after another the heavy pieces of furniture were being transferred from house to truck. Pa came down the steps carrying a mahogany hall clock, just as a befogged person was passing. Stopping short, and eyeing the clock with a fishy but severe air, the intoxicated man remarked:

"Shay, brother, wouldn't it be a blamed sight easier to carry a watch?"

—The Beacon Flash

❦ ❦ ❦

Speak Up

Stranger (slightly deaf):—"You say this stuff was bottled in bond?"

Bootlegger:—"No, I said it was bottled in the barn."

—The Look Box

❦ ❦ ❦

Offspring—Why do they have a buffalo on our five-cent piece, pop?

Progenitor—Because it no longer bison nickel's worth. Go to bed.

❦ ❦ ❦

"Odorono, a moth lives an awful life."

"How come, Fauntleroy?"

"He has to spend the summer in a fur coat and the winter in a bathing suit."

Something New in Cases

The bottles are held securely at the bottom by a narrow ledge, and at the top by a spring clip around their neck. There is a partition between each bottle which eliminates any chance of breakage and scratched labels.

The case itself has a stiff box frame, covered with smooth black cowhide, French sewed at edges, and lined with red velvet. Contains fourteen 4 oz. cut-bottom bottles with metal capped corks and ten ½ oz. squat grease jars held by adjustable bar. 209 Complete, with your name embossed in gold, only $13.15

Other Styles in our FREE Catalog

L-U-C-E

Builders of Sales Luggage

614 Delaware KANSAS CITY, MO.

"GREASY GREASES

A. J. STEVENS GREASE & OIL CO.
31st & Roanoke Rd.
Kansas City, Missouri

Our "F" Base, Non Chatter Compound for Ford Oils. New. Different. **Better.**

Separates freely from water—no emulsion. Easily blended. Stays mixed.

Liberal sample for actual test awaits your request.

Write us!

A. J. STEVENS GREASE & OIL CO.
31st & Roanoke Road
Kansas City, Missouri

"GREASY GREASES"

WAR *on* WASTE!

THE purpose of the Sinclair "Law of Lubrication" is to help the motorist lubricate his car to prevent *Waste of Power* and to maintain economical transportation. Read the law; know its soundness; know its simplicity; then consider its value for increasing your sales of motor oil.

May we show you the Law of Lubrication booklet which Sinclair dealers distribute to motorists?

SINCLAIR REFINING CO.
45 Nassau Street, New York

Atlanta Detroit Kansas City
Chicago Houston Omaha

1916-26—Ten years of manufacturing and distributing petroleum products of quality

The SINCLAIR LAW *of* LUBRICATION

For every machine *of*
every degree *of* wear
there is a scientific
SINCLAIR OIL
to suit *its* speed *and*
seal its power. . . .

SINCLAIR
OPALINE
REG. U.S. PAT. OFF.
MOTOR OIL

SINCLAIR OILS
REG. U.S. PAT. OFF.

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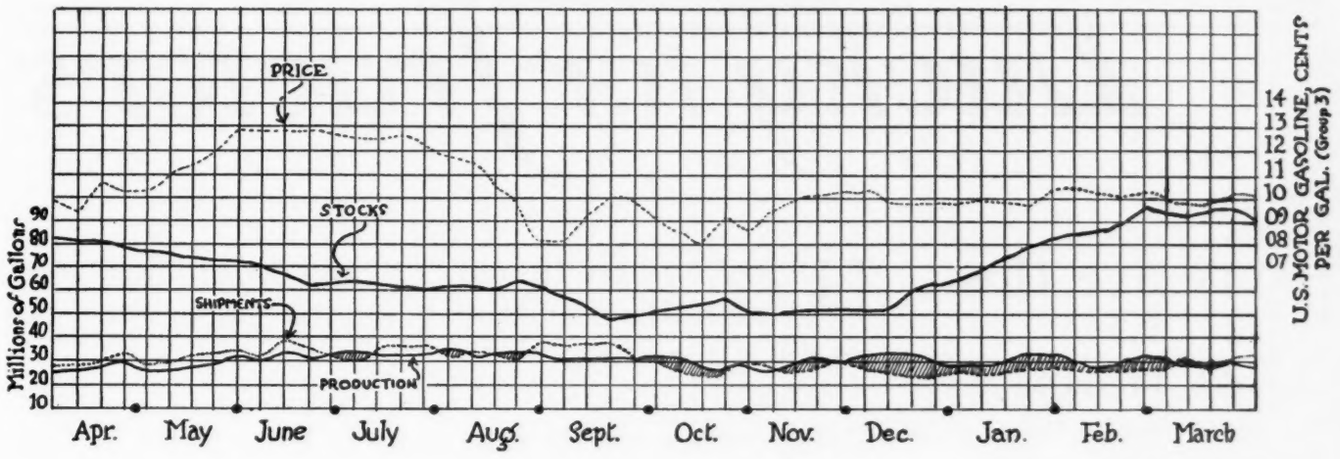
Refinery - Tank Wagon Markets

National Petroleum News

Barometer of the Mid-Continent Gasoline Market



Weather Holds Down Mid-Continent Gasoline Sales

Staff Special
TULSA, April 12.

THE weather apparently holds the fate of the Mid-Continent refinery markets for April, and so far this month it has been displaying the tyrannical side of its nature.

Practically every other factor has been favorable from the refiner's standpoint for a good market this month. But the weather has April fooled them aplenty—a nice, balmy day or two, then drab, depressing days, with rains and snows scattered over consuming areas. The result has been that jobbers have continued to stay out of the market, and the gasoline business has dragged.

The same weather, however, has been showing the other side of its face to the refiners who have heavy oils to offer on the open market. Demand for these commodities has shown no signs of a letup. Prices moved still higher.

The present situation is having a two-fold effect in the Mid-Continent territory. Many refiners believe that a change for the better will come by the middle of April. Others take a more pessimistic view.

Jobbers "Frozen Out"

A review of the market around March 15 reveals that the weather was generally good at that time, and jobbers began coming into the market. Gasoline prices rallied accordingly, and prospects were good for a 10¼ to 10½-cent market in April on 58-60, U. S. Motor gasoline.

That the jobbers were in the right mood to buy them is evidenced by the fact that refiners were getting a large number of inquiries by mail and wire. Considerable gasoline was booked both for prompt and over the month shipments.

The weather was mild enough to open some of the dirt roads in the north for perhaps the first time since winter set in, and jobbers were quick to note this fact. Refiners began shipping considerably more gasoline than they produced.

Two successive blizzards, however, chilled the jobbers, and they have been afraid to venture out again. The refiners who predict a better market around April 15 and thereafter, think a return of even three or four days of generally fair weather throughout consuming territory will warm up the jobbers to the point of entering the market again with at least the same degree of activity they were displaying the latter part of March. These refiners, consequently, have been holding their prices well in line despite the lack of buying.

Damage Already Done?

Others think the damage already has been done for this month. Many marketers and brokers, they argue, have been caught long on gasoline as a result of the curtailment of jobber buying. Some already are making sacrifices for immediate instructions. Those who cannot move their distress stuff now will begin pushing it the minute jobber buying starts again, and will shade the refiners' prices if necessary to get orders quickly. And refiners, in turn, if they want business, will have to meet this competition for several days. The result will be that U. S. Motor gasoline will sag under 10 cents, say those who take the latter viewpoint.

There is one element, however, which may counteract, in part, the pessimism the weather has caused. That is the recent tank wagon changes in the east. This factor may be psychological, but it is worth consideration.

It will be recalled that the Standard Oil Co. of New York advanced gasoline March 31. The Atlantic Refining Co. met the advance in the New England territory. Then early last week the Gulf Refining Co. advanced gasoline 1 cent and the Atlantic Refining Co. met that advance in Pennsylvania and Delaware. Independent Pennsylvania refiners advanced their prices ½ cent.

Last Thursday the Standard Oil Co. of New Jersey raised its tank wagon price to 17 cents, throughout its territory by advancing 1 cent in New Jersey, Maryland and Washington, D. C., and ½ cent in West Virginia.

These advances have suggested to many in the Mid-Continent that the east is considerably more bullish and optimistic over the future than the Mid-Continent and the middle west.

Fight on in Kansas

The reduction on the same day by the Standard Oil Co. of Indiana of ½ cent in price of gasoline in Kansas, was cited in one or two instances as an indication of what that company thinks of the outlook in its territory. The majority, however, think the reduction is primarily due to a battle in that state with certain Independents for gallonage. That the latter probably have the

(Continued on page 148)

13 and Lucky for Tractors

Here are the 13 of them

BRONOCO

Bronoco Tractor
Bronoco Hy. Tractor
Bronoco X Hy. Tractor
Bronoco XX Hy. Tractor

GOLD SEAL

Gold Seal Tractor
Gold Seal Hy. Tractor
Gold Seal X Hh. Tractor
Gold Seal XX Hy. Tractor

SPECIAL

Special A. Tractor
Special B. Tractor
Special C. Tractor
No. 12 Special Low Cold Test
No. 18 Special Low Cold Test

HERE'S where the old "13" jinx doesn't hold good. In fact it's a lucky day for the jobber who ties up with this "13".

Every jobber knows that there is a big profit in tractor lubricants; because tractor owners are willing to pay for oil quality. They aren't taking any chances with their high-priced equipment.

And right there is where the "13" comes in.

R. J. Brown has three distinct lines of tractor lubricants—13 numbers in all. Each one answers a specific need and all of them live up to the guaranteed Brown quality—guaranteed to stand up under heat and dogged wear.

Just write and ask us to tell you how to get the bulk of the farm business with this lucky "13" line.

R. J. BROWN PETROLEUM CO.
1416 Wittenberg Ave., -:- St. Louis

Refinery Markets on Light Oils and Lubricants

Pennsylvania, Oklahoma, North and South Texas, Louisiana, Arkansas, California

GASOLINE AND NAPHTHA

PENNSYLVANIA	Prices April 12	Prices April 5	Prices Mar. 29
52-54 Naphtha	11¼-11¾	11¾-12	11½-12
54-56 Naphtha	11¾-12¼	12¼-12½	12 -12½
58-60 Gasoline	12½-12¾	12½-12¾	12 -12½
60-62 Straight-run gasoline	13 -13½	12¾-13¼	13 -13¼
64-66 Straight-run gasoline	14 -14½	14½-15	14 -14¼
68-70 Straight-run gas. 350-360 E.P.	15¼-16	15½-16	-16
68-70 Straight-run gas. 305-320 E.P.	19 -20	19 -20	-19
70-72 Straight-run gas. 300-305 E.P.		-20	-21
OKLAHOMA			
48-50 450 E. P. naphtha	9 - 9¼	9 - 9¼	9 - 9¼
50-52 450 E. P. naphtha	9 - 9¼	9 - 9¼	9 - 9¼
56-58 450 E. P. gasoline	9¼- 9¾	- 9¾	- 9¾
56-58 U. S. Motor gasoline	9¾- 9¾	9¾- 9¾	9¾-10
58-60 U. S. Motor 437 E. P.	10 -10¼	10 -10¼	-10¼
60-62 400 E. P. gasoline	11 -11¼	11¼-11¼	-11¼
64-66 390 E. P. gasoline	11¼-11¾	11¼ 11¾	11¼-11¾
64-66 375 E. P. gasoline	12 -12¼	12¼-12¾	12¼-12¾
68-70 350-360 E. P. gasoline	12¾-13	12¾-13	12¾-13
64-66 437 E. P. blend	9¾- 9⅞	9¾-10	- 9½
KANSAS*			
58-60 U. S. Motor gasoline	10¼-10½	-10½	-10½
60-62 400 E. P. gasoline	11¾-11½	11¾-11¼	11¼-11¼
64-66 375 E. P. gasoline	12½-12¾	12½-12¾	12¼-12½
*F. O. B. refinery Kansas destination.			
NORTH TEXAS			
48-50 450 E. P. naphtha	9 - 9¼	9 - 9¼	9 - 9¼
56-58 450 E. P. gasoline	9¾- 9¾	9¾- 9¾	- 9¾
58-60 450 E. P. gasoline	9¾- 9⅞	9¾- 9⅞	9¾- 9⅞
56-58 U. S. Motor gasoline	9¾- 9⅞	9¾- 9⅞	9¾- 9⅞
58-60 U. S. Motor gasoline	-10	10 -10¼	10 -10¼
64-66 390 E. P. gasoline	11⅜ 12	12 -12¼	12 -12¼
64-66 375 E. P. gasoline	12¼-12¾	12¼-12½	-12½
68-70 350-360 E. P. gasoline	-12¾	12¾-13	12¾-13
NORTH LOUISIANA			
58-60 U. S. Motor 437 E. P.	-10¼	10¼-10½	-10¼
ARKANSAS			
58-60 450 E. P. gasoline	-10	-10	9¾-10
58-60 U. S. Motor gasoline	-10¼	-10¼	10¼-10½
64-66 375 E. P. gasoline	12¼-12½	12¼-12½	12¼-12½
CALIFORNIA			
54-56 U. S. Motor gasoline	12½-13	13 -13½	13 -13½
42-45 Engine distillate 445-480 E.P.	10½-11	11 -12½	11 -12½

Note: This is without the 2-cent state tax included in the price of California refiners for shipments within the state.

NEW ENGLAND
(F. O. B. Boston and Fall River)

U. S. Motor gasoline	-13⅜	-13¼	-13

NATURAL GASOLINE

(Note: End point of all grades, not over 375° F.)

OKLAHOMA			
Grade Double A	8¾- 9	9 - 9¼	9 - 9¼
Grade A	8¾- 9	9 - 9¼	9 - 9¼
Grade Double B	- 8	8¼- 8½	- 8¼
Grade B	- 8	8¼- 8½	- 8¼
Grade C	7¾- 7⅞	- 8	8¼- 8¼

NOTE—Specifications adopted by Ass'n. of Nat. Gaso. Manufacturers
Grade Double A—80-87.9 gravity, 90% recovery, not over 375 E. P.
Grade A—72-79.9 gravity, 90% recovery, not over 375 E. P.
Grade Double B—84-92 gravity, 85% recovery, not over 375 E. P.
Grade B—76-83.9 gravity, 85% recovery, not over 375 E. P.
Grade C—80-90 gravity, 78% recovery, not over 375 E. P.

NORTH LOUISIANA			
*Grade Double A	9½- 9¾	-10	-10
*Grade Double B	8¾- 9	8¾- 9	8¾- 9
*Grade C	- 8¾	- 8¾	- 8¾
*F. O. B. Monroe District.			
NORTH TEXAS			
*Grade Double A	- 9	9 - 9¼	9 - 9¼
*Grade A	- 9	9 - 9¼	9 - 9¼
*Grade Double B	8 - 8¼	8¼- 8½	- 8¼
*Grade B	8 - 8¼	8¼- 8½	- 8¼
*Grade C	7⅞- 8	8¼- 8¼	8⅛- 8¼
*F. O. B. Breckenridge.			
CALIFORNIA			
78-84° 375 E. P.	17 -17½	17 -17½	17 -17½
PENNSYLVANIA			
68-70 Grav. 437 E. P.	12¾-13¼	12¾-13¼	12½-13
64-66 Grav. 437 E. P.	12¾-13¼	12¾-13¼	12½-13
60-62 Grav. 437 E. P.	12¾-13¼	12¾-13¼	12½-13
68-70 Grav. 420 E. P.	13½ 14	13½-14	13¼-13½

BURNING OILS

PENNSYLVANIA			
45 Water White Kerosene	- 9	- 9	8¾- 9
46 Water White Kerosene	9¼- 9½	9¼- 9¼	9 - 9¼
47 Water White Kerosene	9¾-10	9¾-10	9½-10
300 Burning Oil	8 - 8½	- 8½	8 - 8½
OKLAHOMA			
41-43 Water White Kerosene	6¾- 6⅞	6¾- 6¾	6¾- 6¾
42-44 Water White Kerosene	7⅛- 7¼	7⅛- 7¼	7⅛- 7¼
▶ **KANSAS**			
41-43 w. w. kerosene	- 7¼	7⅛- 7½	7⅛- 7½
42-44 w. w. kerosene	- 7¼	- 7¼	- 7¼

NORTH TEXAS	Prices April 12	Prices April 5	Prices Mar. 29
41-43 Water White Kerosene	7 - 7⅛	7 - 7⅛	6¾- 7¼
NORTH LOUISIANA			
41-43 Water White Kerosene	7 - 7¼	7 - 7¼	- 7¼
ARKANSAS			
41-43 Water White Kerosene	- 7¼	- 7¼	- 7¼
CALIFORNIA			
38-40 Water White Kerosene	8 - 9	10 -11	10 -11
NEW ENGLAND			
*40-43 Water White Kerosene	- 9½	- 9½	- 9½

NEUTRAL OIL

PENNSYLVANIA			
(Viscosity at 70° F.)			
200 Vis. No. 3 Assoc. Filt.	27½-28	27½-28	27 -28
180 Vis. No. 3 Assoc. Filt.	25½-26	25½-26	25 -26
150 Vis. No. 3 Assoc. Filt.	21½-22	21½-22	21 -22
(Non-Viscous)			
34 Grav. 350-360 Flash	8 - 8½	8 - 8½	8 - 8½
36 Miners Neutrals 300-305 Flash	7¼- 7¾	7¼- 7¾	7¼- 7½
OKLAHOMA			
(Viscosity at 100° F.)			
100 Vis. No. 2 color	6½- 7½	6½- 7½	6¾- 7¼
150 Vis. No. 3 color	9½-11	10 -11	10 -11
150 Vis. No. 4 color	9½- 9¾	9½- 9¾	9½- 9¾
180 Vis. No. 3 color	10¼-10½	10¼-10½	10 -10¾
180 Vis. No. 4 color	10 -10½	-10½	10½-11
180 Vis. No. 5 color	-10¼	-10¼	9 -10¼
200 Vis. No. 3 color	-11½	-11½	11 -11½
200 Vis. No. 4 color	11¼-11½	11¼-11½	11¼-11½
200 Vis. No. 5 color	9½-11¼	9½-11¼	9½-11¼
220 Vis. No. 3 color	12 -13	12 -13	12 -12¾
220 Vis. No. 4 color	13 -13¼	13 -13¼	13 -13¼
220 Vis. No. 5 color	-12¾	-12¾	12½-12¾
240 Vis. No. 3 color	14 -16	14 -16	14 -15
240 Vis. No. 4 color	14¼-14½	14¼-14½	14¼-14½
240 Vis. No. 5 color	-14	-14	13¾-14
280 Vis. No. 3 color	16 -17	16 -17	15¼-17
280 Vis. No. 4 color	16¼-16½	16½-16¾	16¼-16½
280 Vis. No. 5 color	15¾-16	15¾-16	15¾-16
300 Vis. No. 5-6 color	17 -18½	17 -18½	17 -18½
GULF COASTAL			
(Viscosity at 100° F; cold test 0)			
100 Vis. No. 2 Color Unfilt. Pale	7½- 8	7½- 8	7½- 8
200 Vis. No. 3 Color Unfilt. Pale	11½-12	11½-12	11½-12
300 Vis. No. 3 Color Unfilt. Pale	13 -13½	13 -13½	13 -13½
500 Vis. No. 3½ Color Unfilt. Pale	15 -15½	15 -15½	15 -15½
750 Vis. No. 4 Color Unfilt. Pale	18½-19½	18½-19½	18½-19½
200 Vis. No. 5½ Color Red Oil	9½-10	9½-10	9½-10
300 Vis. No. 5½ Color Red Oil	11½-12	11½-12	11½-12
500 Vis. No. 6 Color Red Oil	13 -13½	13 -13½	13 -13¾
750 Vis. No. 6 Color Red Oil	17 -18	17 -18	17 -18
CALIFORNIA			
(Viscosity at 100° F.)			
100 Vis. No. 2 color	11 -11½	11 -11½	11 -11½
100 Vis. No. 3 color	8½- 9	8½- 9	8½- 9
200 Vis. No. 3 color	13½-14	13½-14	13½-14
300 Vis. No. 3 color	15 -15½	15 -15½	15 -15½
450 Vis. No. 3 color	18 -18½	18 -18½	18 -18½
550 Vis. No. 3 color	20 -21	20 -21	20 -21
600 Vis. No. 3½ color	21 -22	21 -22	21 -22
100 Vis. No. 5 color	7 - 7½	7 - 7½	7 - 7½
200 Vis. No. 5 color	12 -12½	12 -12½	12 -12½
300 Vis. No. 5 color	13 -13½	13 -13½	13 -13½
400 Vis. No. 5 color	15 -16	15 -16	15 -16
500 Vis. No. 5 color	16 -17	16 -17	16 -17
600 Vis. No. 6 color	17 -18	17 -18	17 -18
700 Vis. No. 7 color	18 -19	18 -19	18 -19

CYLINDER STOCKS

OKLAHOMA			
190-200 Vis. at 210° Bright Stock	31 -35	31 -35	31 -35
150-160 Vis. at 210° Bright Stock	27 -31	28 -31	28 -31
600 E Stock, 140-150 Vis. — 210°	18 -20	18 -20	18 -20
600 Steam Refined Olive Green	8½-11	8½-11	8½-11
600 Steam Refined Dark Green	6½- 7	6½- 7	6½- 8
Black Oil	- 5	- 5	- 5
PENNSYLVANIA			
(1-inch Immersion Test)			
600 Steam Refined	15½-16½	16 -17	15½-16½
650 Steam Refined	21 -22	21 -22	21½-22
600 Flash	25 -26	25 -26	24 -25
625 Flash Steam Refined		-34	-34
600 Warren E	21 -21½	21 -21¾	21 -21½
600 Oil City E	20 -20½	20 -20½	20 -20½
600 Filtered D	26 -27	26 -27	27 -28
Cold Test Stocks (bright filtered)	37 -38	36½-38	36½-38
Cold Test Stock (dark filtered)	35 -36	34½-36	34½-36

(Note—Prices of total immersion test goods average 1 to 3 cents per gallon higher.)

Above prices are f. o. b. refinery in tank car. They are the prices at which the bulk of the products on the open market move. Whoever has knowledge of any open market prices on any considerable quantity of goods differing from the foregoing, will favor us with this information.

*Only one refiner quoting.

(Continued from page 145)

right idea is indicated by the announcement that coincident with the reduction the Standard of Indiana announced a policy of allowing a discount of 1 cent per gallon for dumps of 50 gallons or more in that state.

Referring to the chart published herewith it will be seen that since around the middle of November the price of U. S. Motor gasoline has held a comparatively regular line around the 10-cent mark. A year ago the situation was different. In November the price was down around 7½ to 8 cents, moved up to around 8½ to 9 cents in December and January, then shot up to 13 cents in February, only to ease off in March and April to around 9 cents, after which it started another climb.

The trade feels certain the present line will begin its upward climb, but the question is, when will it start?

Exporters also have stayed out of the market the past week. One or two small purchases were reported, these being primarily accommodation buys. A small quantity of 60-62, 390 end point gasoline for export also was reported to have been bought, but the purchaser and the price paid were not revealed.

Heavy Oils Steady, Tight

Heavy oils have been getting the big play again the last week. Practically all grades moved up a little in price. Little fuel oil has been available in Oklahoma. The same holds true for distillates and gas oil. Refiners have found it is an easy matter to get almost their own prices.

Kansas has experienced the same situation. Some 24-26 gravity oil has been sold as high as $1.60 a barrel to drillers.

Texas has been short on fuel oil for the last few weeks, and in addition has had the usual artificial market created each month as a result of heavy buying by large industrial and rail consumers. The buying is about over now, however, and spot prices are beginning to come down again.

In Arkansas and north Louisiana the demand for gas oil has been exceptionally good, and several refiners report they are sold to the limit.

Kerosenes have gained strength again. In Oklahoma all the 41-43 water white kerosene at 6⅝ cents a gallon has disappeared, and two or three refiners are getting as high as 6⅞ cents direct to the trade. One large refiner has over sold at 6¼ cents, and has been forced to go into the open market and buy at that figure. He now is quoting 7 cents a gallon, as he says, "in self defense."

Kerosene in Texas has hovered around 7 cents a gallon for some time, with goods fairly scarce. Demand hasn't been so good in Arkansas and Louisiana, however, but Kansas has been selling its output in good fashion.

Natural Gasolines Weaker

Natural gasolines have experienced a dull week. There has been only spasmodic demand for the material, and prices have sagged somewhat. Grade C is the weakest, with reports Saturday of some stuff quoted as low as 7½ cents. Little trading was done, however, resale buyers being afraid they would find themselves with the material on their hands and no place to put it. Grades A and AA, due principally to the contract stuff moving out to the New Orleans Refining Co., has been the most active. Grades B and BB have held only moderately well.

One company which last year bought a large quantity of Grade C on contract, and which now is buying in the open market, failed to come in for any quantity around the first of the month, as it had done previously this year, and reports are that the company is having so much of its own production now that it is offering a little on the open market.

The demand for lubricating oils and cylinder stocks has been unusually good for several weeks, refiners that make those commodities report. One large refiner says that the output of his plant has been completely sold, and they have been drawing on stocks. Prices have held steady since Feb. 1, whereas prices of other refined products have fluctuated considerably.

Waxes are not in big demand but several carloads were sold at 4⅞ to 5 cents.

First Natural Gasoline Man Heads Amity Company

W. L. Sutton
President, Amity Gasoline Co.

SISTERSVILLE, W. VA., April 12.—A pioneer in the natural gasoline field, W. L. Sutton, of Sistersville, W. Va., recently was elected president of the Amity Gasoline Co. Incidentally, he is mayor of Sistersville, having held that office since 1916.

Mr. Sutton, with his brothers, is credited with having first extracted gasoline from natural gas in commercial quantity. Their plant was set up in Sistersville.

He succeeds in the presidency of the Amity company the late W. J. Neuenschwander. George S. Bradfield succeeds Mr. Sutton as vice-president and L. E. Gregg was made assistant secretary at the same election.

The Trico News, company publication of the Wiser Oil Co., Petroleum Exploration and Amity Gasoline Co., in its latest issue published the following concerning Mr. Sutton:

"Born in Oil City, Pa., April 2, 1871, W. L. Sutton attended the public schools, completing both the common and high school courses and later graduating from businesss college before he was twenty years of age. In rather spectacular fashion, Mr. Sutton and H. L. Leopold, landed in Sistersville in 1891 with only seven dollars between them, just after the first well had been drilled at that place. They had left home with the idea of going to California but upon hearing that oil had been struck at Sistersville decided to go there. Mr. Sutton wrote to his father, F. A. Sutton, a successful drilling contractor, about the excellent prospects of obtaining an oil field and soon the father with his other sons, John and Curtis, came to Sistersville, leased up several hundred acres and almost from the outset drilled in good wells. Due to the hard times and scarcity of money, the Suttons were unable to acquire many of the best leases in the field, but years of hard work, careful investment, provided W. L. Sutton and his brothers with sufficient funds to buy out their father's interests and establish their present successful business. Mr. Sutton has always shown his employees every consideration and many of those now associated with him were given an interest in the business."

Mr. Sutton is also a vice-president and director of the Wiser Oil Co.

Report Favorably on Leasing Bill

WASHINGTON, April 12.—The House of Representatives committee on Indian affairs has made a favorable report on H. R. 9133, introduced by Representative Hayden of Arizona, authorizing the making of oil and gas mining leases upon unallotted lands in Indian reservations which were created by executive orders from the White House.

The bill, as amended by the committee provides that the royalties shall be available for appropriation by congress for "expenses in connection with the supervision of the development and operation of the oil and gas industry and for the use and benefit of such Indians."

Refinery Markets on Wax and Heavy Oil Products

Pennsylvania, Oklahoma, North and South Texas, Louisiana, Arkansas, California

WAX

PENNSYLVANIA	Prices April 12	Prices April 5	Prices Mar. 29
	(Per Pound, New York)		
122-124 White Crude Scale..	– 5¼	– 5¼	– 5¼
124-126 White Crude Scale..	– 5⅜	– 5⅜	– 5⅜
OKLAHOMA			
	(Per Pound, Group 3)		
124-126 White Crude Scale..	4⅞- 5	5 – 5⅛	– 5
CALIFORNIA			
White Crude Scale.....	6 – 6½	6 – 6½	6 – 6½

FUEL OIL

PENNSYLVANIA			
36-40 Fuel Oil.....	6¼- 6½	6 – 6¼	6 – 6½
30-34 Fuel Oil.....	5¾- 6	5¾- 6	5¾- 6⅛
28-30 Fuel Oil	5¾- 6	5¾- 6	5¾- 6
OKLAHOMA			
38-40 Straw distillate.....	4½- 4⅝	4⅜- 4½	4¼- 4⅜
36-38 Straw distillate.....	4½- 4⅝	– 4¼	4¼- 4½
32-36 Gas oil (Gal.).....	4¼- 4⅜	– 4¼	– 4⅜
26-30 Fuel oil (Bbl.).....1.50	-1 60	1.45 -1.55	1.40 -1.50
24-26 Fuel Oil (Bbl.).....1.40	-1.45	1.35 -1.45	1.32½-1.35
22-26 Fuel Oil (Bbl.).....1.32½	-1.37½	1.30 -1.35	1.25 -1.30
18-22 Fuel Oil (Bbl.).....	-1.30	1.27½-1.30	1.20 -1.22½
KANSAS*			
38-40 Light straw distillate..	4¾- 5	4½- 4¾	– 4½
36-38 Light straw distillate..	4½- 4¾	– 4⅜	– 4⅜
32-36 Gas Oil.....	4½- 4⅝	– 4¼	4 – 4¼
18-22 Fuel Oil.....1.35	-1.40	1.30 -1.35	1.20 -1 30
24-26 Fuel Oil 1.45	-1.55	1.40 -1.50	1.35 -1.40
*F. O. B. refinery, Kansas destination.			
NORTH TEXAS			
38-40 Straw Distillate.....	– 4¼	4¼- 4⅜	4¼- 4⅜
36-38 Straw Distillate.....		4⅜- 4¼	4⅛- 4¼
32-36 Gas Oil (Gal.).....	4 – 4¼	4 – 4⅜	3¾- 4
24-26 Fuel per (Bbl.).....1.47½	-1.50	-1.50	1.40 -1.45

GULF COASTAL	Prices April 12	Prices April 5	Prices Mar. 29
Fuel.....1.55	-1.65	1.55 -1.65	1.55 -1.65
Gas Oil.....	– 5¼	– 5¼	– 5¼
NORTH LOUISIANA			
32-36 Light Gas Oil (Gal.)...	4¼- 4½	4¼- 4½	4 – 4¼
16-20 Fuel Oil (Bbl.).....1.15	-1.20	-1.20	1.15 -1.20
ARKANSAS			
32-36 Gas Oil.....	– 4½	4¼- 4½	4 – 4¼
Smackover Crude Fuel.....1.07½	-1.12½	1.10 -1.12½	1.10-1.12½
Road oil.....	-1.26	-1.26	-1.26
CALIFORNIA*			
14-18 Fuel Oil (Bbl.).....	1.00	1.00	1.00
14-18 Bunker Oil (Bbl.).....	1.00	1.00	1.00
24-30 Gas Oil (Bbl.).....	1.15	1.15	1.15
27 + Diesel Oil (Bbl.).....	1.15	1.15	1.15
*(San Joaquin Valley, San Francisco 4c per bbl. more.)			
NEW ENGLAND			
	(F. O. B. Boston and Fall River)		
30-32 Gas Oil (Gal.).....	– 5¼	– 5¼	– 5¼
Fuel Oil (Bunker C) Bbl....	-1.82½	-1.82½	-1.82½

PETROLATUMS

PENNSYLVANIA			
Snow White.....	-11½	-11½	-11½
Lily White.....	– 9½	– 9½	– 9½
Cream White.....	– 6¾	– 6¾	– 6¾
Light Amber.....	– 3¾	– 3¾	– 3¾
Amber.....	– 3½	– 3½	– 3½
Red.....	3 – 3½	3 – 3½	3 – 3¼
Green.....	1¾- 2	1¾- 2	1¾- 2

Above prices are f. o. b. refinery in tank car. They are the prices at which the bulk of the products on the open market move. Whoever has knowledge of any open market prices on any considerable quantity of goods differing from the foregoing, will favor us with this information.

Pennsylvania Market Moving Steady

CLEVELAND, April 13.—A steady movement of stocks prevailed throughout the past week in the Pennsylvania market with very few changes in prices. Kerosene has been the most active product with sales averaging 8¾ cents. Some refiners report their output sold for the remainder of the month. Neutral stocks have been scarce with prices firm and cylinder stocks showed signs of weakness. Refiners report numerous inquiries on most products but the materialization of sales seems to be awaiting warmer weather.

Proposes Overhauling Of Petroleum Rates

WASHINGTON, April 12.—A complete overhauling of rates on petroleum and its products from all points has been proposed to the Interstate Commerce Commission by Alfred S. Knowlton, an examiner for the commission in a case styled South Dakota Independent Oil Jobbers Association vs. Atchison, Topeka & Santa Fe et al. In summing up his reports Knowlton said:

"The commission should find that the rates from the Mid-Continent fields, from Illinois, Indiana, and Wyoming points are unreasonable and in certain respects unduly prejudicial. For the future the rates from the Mid-Continent field should be divided into three origin groups known as Kansas City group 1, Kansas group 2, and Oklahoma group 3. Kansas group 2 should take a differential 2 cents under group 3. The Kansas City group should take a differential of 8 cents under group 3 when applied to points in South Dakota east of the Missouri River and 7 cents to points west of the river. The following rates arrived at by taking ton-mile earnings of approximately 14 mills and applying these earnings to the distances from Tulsa, as typical of group 3, will establish a reasonable and non-prejudicial basis for the future. Specific rates to typical destination points are prescribed as follows for application from group 3:

Elk Point	40 cents
Yankton	43 cents
Mitchell	48 cents
Aberdeen	57 cents
Mobridge	64 cents
Newark	58 cents
Huron	51.5 cents
Pierre	60 cents
Watertown	52 cents
Rapid City	69 cents
Murdo	58 cents

Other destination points should be aligned in accordance with these rates. From Wyoming a reasonable rate for the future to South Dakota points will not exceed 45 cents, except that the present differentials on the Faith-Isabelle branch and on the Lemmon line of the Chicago, Milwaukee & St. Paul, and the differentials of the Le Beau branch of the Minneapolis & St. Louis, over Aberdeen may be maintained. This will give a rate of 51 cents at Le Beau and Mobridge and 63 cents at Faith and Isabelle. From Whiting, Ind., as typical of Indiana-Illnois origins, rates 3.5 cents under the rates from Mid-Continent group 3 should be applied to South Dakota destinations, except that in no instance should the rate be less than 39.5 cents. The blanket rate from Montana is apparently high to points in South Dakota, but the present record does not indicate that that rate is unreasonable as a blanket rate and the commission should not disturb that rate on the present record. The present differentials should be maintained on crude oil under the refined oil rates prescribed above.

Builds Storage For Cole-Bruni Oil

HOUSTON, April 10.—Houston Oil Co. of Texas is making preparations to handle oil from the Cole-Bruni area through a 6-inch pipe line to a point east of the Texas-Mexican railroad station at Bruni. It is building two steel storage tanks of 55,000 barrels capacity each to care for the oil.

As no undue haste is being made in developing either of the Duval county areas mentioned, and only a relatively small number of companies are active in the respective territories, supplies are drawn from established bases elsewhere and shipped in by train.

Chicago Finds Trading Slow As Spring Does Hesitation

Staff Special
CHICAGO, April 12

THE weather continued the most important factor in the Chicago gasoline market this week, although the jobbers convention held here was partially the cause of the extremely slow tone prevailing most of the week. Not until last Thursday, when the sun came out and temperatures began to rise, has April taken on any semblance of being a real spring month. Increased use of motor cars was quickly noticeable in urban districts, but bad roads in rural sections still prevent the use of automobiles.

The demand for U. S. Motor gasoline was slow up until late in the week when an increase in jobber inquiries was noted. Gasoline on Friday and Saturday broke away from its sluggish tendency but even then the movement was in one or two car lots only. Prices of 58-60 U. S. Motor gasoline at the beginning of the week were fairly firm at 10⅛ to 10¼ cents but soon reflected the slack demand and the low price slipped to 10 cents. One broker pressed for instructions offered small lots to the trade at 9⅞ cents on Wednesday. The market held a much steadier position at 10 to 10⅛ cents on Saturday.

The weather man says that all of Standard Oil Co. of Indiana territory will have fair weather during the greater portion of the coming week; a short period of showers will be quite general about the middle. Temperatures will average near or slightly above normal.

Kerosene experienced a slight flurry near the end of the week but prices show no appreciable advance. The 41-43 water white grade is steady to strong at 6¾ to 6⅞ cents; offerings are not as free as they have been recently. Several refiners arbitrarily quote 7 cents for this grade stating their output is sold up. The lighter grade, 42-44 gravity, is firm at 7¼ cents flat.

Distillate prices are practically nominal; majority of Chicago brokers are taking orders subject to their ability to buy the material. The best price a jobber can do in Chicago on good 38-40 straw color distillate is 4⅝ cents. Gas oil, 32-36 gravity, is firmly held at 4⅜ to 4½ cents.

Reduced runs of crude to stills and demand for cracking continues to keep any large quantities of fuel oil from being offered to the industrial trade. The 18-22 gravity fuel oil price range advanced 2½ cents over the week to $1.32½ to $1.35. Extreme scarcity pushed 22-26 gravity material up a nickel to $1.37½ to $1.42½. Smackover crude fuel was steady all week at $1.07½ to $1.12½.

Prairie Shipments

Staff Special

TULSA, April 12.—During March, the Prairie Pipe Line Co. shipped through its lines a daily average of 148,001 barrels, an increase of 2,594 barrels over the daily average recorded in February. This is the greatest daily average shipment figure on record since July, 1925, and is a continuation of the increase that has been in progress each month since last September. Total shipments in March were 4,588,038 barrels, as compared with 4,071,405 barrels in February. The increase of 516,633 barrels is partly accountable to the fact that February was a short month.

Prairie Pipe Line Co. shipments for the past six months have been as follows:—

Month	Shipments	Daily Average
October, 1925	3,990,645	128,730
November	3,850,769	128,359
December	4,182,026	134,904
January, 1926	4,187,390	135,077
February	4,071,405	145,407
March	4,588,038	148,001

PLATT'S
OILGRAM
Petroleum Markets-Every Day

HOW SURE ARE YOU?

If you were to place an order *today* for gasoline, or kerosene, or fuel oil, or lubricating oil—

How sure would you be that you were buying *at the right time* and *at the actual market?*

Did you hear of a tankwagon cut today in another territory, which might indicate a cut coming in yours? Or, did crude change today? Or, did some one put in a big buying order for export which will stiffen the gasoline market ¼ cent or so tomorrow?

A large part of your profits come from *daily accurate knowledge* of market prices and conditions.

PLATT'S OILGRAM brings you this market information from an unbiased source daily. Costs only 30 cents a day—a year for $75, or 3 months for $25. It's your greatest aid to showing PROFIT at the end of the year.

**TULSA—608 Bank of Commerce Bldg.
CHICAGO—360 N. Michigan Ave.
CLEVELAND—840 Caxton Bldg.**

Week's Price Changes Tank Wagon Markets

Gasoline Changes

Standard of New Jersey—T.w. and s.s. prices gasoline advanced 1 cent, New Jersey, Maryland and District of Columbia, and ½ cent in West Virginia excepting at Charleston, Huntington and Parkersburg which were unchanged, **April 8.**

Atlantic Refining—T.w. and s.s. gasoline advanced 1 cent, Pennsylvania and Delaware, **April 6,** as announced in April 7 issue. In the 1 cent general advance on gasoline in New England on **March 31,** s.s. price at Springfield and Worcester, Mass., was advanced 2 cents, to 22 cents. Prices are corrected in this week's table.

Standard of Indiana—T.w. and s.s. prices gasoline reduced ½ cent, Kansas and Oklahoma, **April 8.**. On same date Standard established the policy in Kansas of allowing 1 cent discount per gallon to tank wagon customers for dumps of 50 gallons or over. Inasmuch as most of its deliveries exceed 50 gallons, the policy amounts to the establishment of a 3 cent spread between t.w. and s.s. prices.

Standard of Kentucky—S.s. price at Pensacola, Fla., has been the same as t.w. price since Nov. 15, 1925, according to an Independent oil company marketing there. Hence, the s.s. price at that point has been changed to 21 cents, the same price as the t.w., in the table in this week's issue. This publication was previously showing a 24 cent s.s. price at Pensacola, in accordance with the official posted price of the Standard, which shows a 3 cent spread.

Canada—T.w. gasoline at Regina cut 1 cent to 29.5 T.w. and s.s. gasoline advanced 3 cents, New Brunswick, covering tax of that amount which went into effect **April 1.**

Magnolia Petroleum—S. s. price only on gasoline cut 2 cents at El Paso, to 18 cents, **April 10,** making t.w. and s.s. prices same.

Kerosene Changes

Canada—T.w. kerosene advanced 1½ cents, Charlottetown and Three Rivers, **Feb. 17,** former point to 24.5 cents and latter to 23.5 cents. T.w. advanced 1 cent at Winnipeg, and 1½ cents at Cochrane, **March 17,** former point to 23.5 cents and latter to 26 cents.

CAMERON, TEX.—Jack Owens is erecting service station here and will handle products of Magnolia Petroleum Co., Dallas.

SELMA, Ala.—The Texas Co. has opened a new distributing station here, with D. F. Jacobs as agent, reports G. H. Dinkins, representative at Selma.

Tank Wagon, Service Station Markets for Gasoline and Kerosene In United States Territories and Canada

These Prices in Effect April 12, 1926

S.O. NEW JERSEY TERRITORY

	Gasoline T.W.	Tax	Total	S.S.	Oil T.W.
Atlantic City, N. J.	17	0	17	*	15
Newark, N. J.	17	0	17	19	15
Annapolis, Md.	17	2	19	*	15
Baltimore, Md.	17	2	19	22	13
Cumberland, Md.	17	2	19	22	15
Washington, D. C.	17	2	19	22	15
Danville, Va.	17	4½	21.5	*	15
Norfolk, Va.	17	4½	21.5	24.5	15
Richmond, Va.	17	4½	21.5	24.5	15
Roanoke, Va.	17	4½	21.5	24.5	15
Petersburg, Va.	17	4½	21.5	*	15
Williamsburg, Va.	17	4½	21.5	*	15
Charleston, W. Va.	16.5	3½	20	23	15
Clarksburg, W. Va.	17	3½	20.5	23.5	15
Keyser, W. Va.	17	3½	20.5	*	15
Parkersburg, W. Va.	16.5	3½	20	23	15
Wheeling, W. Va.	17	3½	20.5	23.5	15
Charlotte, N. C.	17	4	21	24	15
Hickory, N. C.	17	4	21	*	15
High Point, N. C.	17	4	21	*	15
Mt. Airy, N. C.	17	4	21	*	15
Salisbury, N. C.	17	4	21	*	15
Charleston, S. C.	17	5	22	25	15
Columbia, S. C.	17	5	22	25	15

*Dealers set own prices. S. O. New Jersey does not operate station.

S. O. NEW YORK

*New York City	19	0	19	23	16
Albany, N. Y.	19	0	19	21	16
Buffalo, N. Y.	18	0	18	21	16
Rochester, N. Y.	†19	0	†19	†23	14
Syracuse, N. Y.	19	0	19	21	15
Boston, Mass.	19	0	19	22	16
Augusta, Me.	19	3	22	25	16
Manchester, N. H.	19	2	21	25	16
Burlington, Vt.	19	2	21	23	16

*In steel barrels.

†At Rochester, Standard sells two grades of gasoline, the above price applying to its Socony grade, and another grade being sold 2c below this price.

ATLANTIC REFINING

Pittsburgh, Pa.	18	0	18	*23	16
Philadelphia, Pa.	18	0	18	*23	16
Allentown, Pa.	18	0	18	*23	16
Erie, Pa.	16	0	16	*21	14
Scranton, Pa.	18	0	18	*23	16
Altoona, Pa.	18	0	18	*23	16
Dover, Del.	18	2	20	23	16
Wilmington, Del.	18	2	20	23	16
Providence, R. I.	19	1	20	23	16
Springfield, Mass.	19	0	19	22	16
Worcester, Mass.	19	0	19	22	16
Hartford, Conn.	19	2	21	24	15
New Haven, Conn.	19	2	21	24	16
Boston, Mass.	19	0	19	22	16

*Contains 2-cent tax collected by retail dealer and paid by him directly to state.

S. O. KENTUCKY

Lexington, Ky.	17	5	22	25	16
Louisville, Ky.	18	5	23	26	15
Covington, Ky.	17	5	22	25	16
Clarksdale, Miss.	17	4	21	24	14.5
Jackson, Miss.	17	4	21	24	13.5
Natchez, Miss.	16.5	4	20.5	23.5	14
Vicksburg, Miss.	16.5	4	20.5	23.5	14
Birmingham, Ala.	18	2	20	23	16.5
Mobile, Ala.	17	2	19	22	15
Montgomery, Ala*	19	2	21	24	17.5
Atlanta, Ga.	†19	3½	23	26	17
Augusta, Ga.	†19	3½	23	26	17
Macon, Ga.	†19	3½	23	26	17
Savannah, Ga.	†16	3½	20	23	15
Jacksonville, Fla.	17	4	21	24	15
Miami, Fla.	19	4	23	26	16.5
Tampa, Fla.	17	4	21	24	15
Pensacola, Fla.	17	4	21	21	15.5

*Local privilege tax of 1 cent on gasoline and ¼ cent on kerosene at Montgomery included.

†Georgia has ½ cent per gal. inspection fee on gasoline which is deducted as well as the state gasoline road tax of 3½ cents, to get the actual net tank wagon market to dealer.

S. O. INDIANA

	Gasoline T.W.	Tax	Total	S.S.	Oil T.W.
Chicago, Ill.	†17	0	†17	19	12
Decatur, Ill.	17.2	0	17.2	19.2	12.5
E. St. Louis, Ill.	16.1	0	16.1	18.35	11.6
Joliet, Ill.	17.4	0	17.4	19.4	12.7
Peoria, Ill.	17.2	0	17.2	19.2	12.5
Quincy, Ill.	17.2	0	17.2	19.2	12.3
Indianapolis, Ind.	17.2	3	20.2	22.2	12.7
Evansville, Ind.	17	3	20	22	12.5
South Bend, Ind.	17.4	3	20.4	22.4	12.9
Detroit, Mich.	17.8	2	19.8	21.8	13.2
Grand Rapids, Mich.	17.7	2	19.7	21.7	13.1
Saginaw, Mich.	17.9	2	19.9	21.9	13.3
Madison, Wis.	17.3	2	19.3	21.3	12.5
Milwaukee, Wis.	17.1	2	19.1	21.1	12.3
La Crosse, Wis.	18.2	2	20.2	22.2	13.4
Minneapolis, Minn.	18.2	2	20.2	22.2	13.6
Duluth, Minn.	18.5	2	20.5	22.5	13.6
Mankato, Minn.	18.1	2	20.1	22.1	13.4
Des Moines, Iowa	17.5	2	19.5	21.5	12.9
Davenport, Iowa	17.5	2	19.5	21.5	12.9
Sioux City, Iowa	17	2	19	21	12.5
Mason City, Ia.	17.5	2	19.5	21.5	12.9
St. Louis, Mo.	*16.6	2	18.6	20.9	12
Kansas City, Mo.	††17.9	2	19.9	21.9	11.3
St. Joseph, Mo.	*17	2	19	21	11.9
Fargo, N. D.	19.9	1	20.9	22.9	15.6
Grand Forks, N. D.	20.2	1	21.2	23.2	15.9
Minot, N. D.	19.9	1	20.9	22.9	15.6
Pierre, S. D.	16	3	19	21	14.1
Huron, S. D.	16	3	19	21	14.1
Wichita, Kans.	15.8	2	17.8	19.8	11.8
Bartlesville, Okla.	13.9	3	16.9	18.9	10.9

†Dumps of 100 or more gallons at 16c per gallon.

*Includes city tax of ½c.

††Includes city tax of 1c.

S. O. NEBRASKA

Crawford, Neb.	18	2	20	*	13.25
Omaha, Neb.	16.25	2	18.25	20.25	12.5
McCook	18.75	2	20.75	22.75	14
Norfolk	17.75	2	19.75	21.75	13
North Platte	18.75	2	20.75	22.75	13.75
Scottsbluff	18.25	2	20.25	22.25	13.25

*Standard has no service station here.

CONTINENTAL OIL

Denver, Colo.	18	2	20	20	15.5
Pueblo, Colo.	17	2	19	19	15.5
Casper, Wyo.	18	2½	20.5	22.5	14
Cheyenne, Wyo.	19	2½	21.5	23.5	15.5
Butte, Mont.	20	2	22	22	17
Helena, Mont.	22	2	24	26	18
Salt Lake City, Utah.	21.5	3½	25	27	18
Boise, Ida.	23	3	26	28	20
Albuquerque, N.M.	21.5	3	24.5	27.5	17.5

S. O. CALIFORNIA

Phoenix, Ariz.	22	3	25	28	21.5
Los Angeles, Cal.	14.5	2	16.5	20.5	15.5
Fresno, Cal.	16.5	2	18.5	22.5	17.5
San Francisco, Cal.	16	2	18	22	15.5
Reno, Nev.	19.5	4	23.5	27.5	19
Portland, Ore.	16	3	19	23	16.5
Seattle, Wash.	16	2	18	22	16.5
Spokane, Wash.	20	2	22	26	20.5
Tacoma, Wash.	16	2	18	22	16.5

S. O. LOUISIANA

Little Rock, Ark.	14.5	4	18.5	21.5	14.5
Alexandria, La.	14.5	2	16.5	19.5	14.5
Baton Rouge, La.	13.5	2	15.5	18.5	13
Lake Charles, La.	15	2	17	20	14.5
New Orleans, La.	*15	2	17	20	13.5
Shreveport, La.	13.5	2	15.5	18.5	13.5
Lafayette, La.	14.5	2	16.5	19.5	14
Bristol, Tenn.	18.5	3	21.5	24.5	16
Chattanooga, Tenn.	18	3	21	24	16
Knoxville, Tenn.	18	3	21	24	16.5
Nashville, Tenn.	17	3	20	23	16.5
Memphis, Tenn.	16	3	19	22	15.5

*Includes 1c city tax on gasoline and kerosene.

S. O. OHIO

	Gasoline T.W.	Tax	Total	S.S.	Oil T.W.
All Ohio points	19	2	21	23	15

MAGNOLIA PETROLEUM

Muskogee, Okla.	14	3	17	20	10
Oklahoma City	14	3	17	20	12
Tulsa, Okla.	14	3	†17	20	12
Fort Smith, Ark.	14.5	4	18.5	21.5	14.5
Little Rock, Ark.	14.5	4	18.5	21.5	14.5
Texarkana, Ark*	16.5	4	20.5	23.5	13
Dallas, Tex.	14	1	15	17	11
El Paso, Tex.	17	1	18	18	13
Fort Worth, Tex.	13	1	14	16	11
Houston, Tex.	15	1	16	18	12
San Antonio, Tex.	14	1	15	17	11

*Within city of Texarkana, Ark., the state tax on gasoline is 1c per gal. conforming with the Texas state tax. In Texarkana district outside of the city the 4c state tax applies.

†17c to regular power trade, 19c to all other tank wagon consumers.

V. M. & P. NAPHTHA

(Changes ordinarily occur coincident with gasoline)

	Oleum Spirits	V.M.&P. Naphtha	Cleaners Naphtha
Chicago	19	21	21
Detroit	20.2	22.7	22.7
Kansas City	19.2	21.2	21.2
Milwaukee	19.2	23.7*	23.7
Minneapolis	20.5	25*	25*
St. Louis	18.4	20.9	22.2
New York		19	

*Including state tax.

CANADA

(Per Imperial Gallon, which is 1.2 American Gallons)

ONTARIO

	Gasoline T.W.	Tax	Total	S.S.	Oil T.W.
Toronto	24.5	3	27.5	31	21.5
Ottawa	25.5	3	28.5	32	22.5
Cochrane	29.5	3	32.5	36	26
Ft. William	27.5	3	30.5	35	23.5

MANITOBA

Winnipeg	27.5	3	30.5	34	23.5

SASKATCHEWAN

Regina	29.5	0	29.5	34	25.5

ALBERTA

Edmonton	31.5	2	33.5	37	27.5
Calgary	29.5	2	31.5	35	26.5

BRITISH COLUMBIA

Vancouver	23	3	26	30	24.5

QUEBEC

Montreal	24.5	3	27.5	31	20
Quebec City	26.5	3	29.5	33	22
Three Rivers	26.5	3	29.5	33	23.5

NEW BRUNSWICK

St. John	27.5	3	30.5	35	26.5
Moncton	27.5	3	30.5	35	26.5

NOVA SCOTIA

Halifax	27.5	3	30.5	35	24.5
Sydney	29.5	3	32.5	38	26.5

PRINCE EDWARD ISLAND

Charlottetown	27.5	2	29.5	33	24.5

Note: In districts surrounding these points 1c additional is added to city price.

Market Section

Export Gasoline Market is Strengthened By Standard of New Jersey Advances

By Special Correspondent
NEW YORK, April 12

GASOLINE was stronger at the end of the week. Thursday the Standard Oil Co. of New Jersey advanced cased export gasoline ½ cent a gallon and tank wagon prices 1 cent in New Jersey, Maryland and Washington, D. C., and ½ cent in West Virginia. Sinclair Refining Co. and The Texas Co. met these advances. Sinclair advanced bulk U. S. Motor gasoline at Atlantic seaboard ¾ cent to 13 cents a gallon on Thursday.

Kerosene remained quiet but steady. Gas oil is firm and unchanged. Lubricating oils are a trifle easier. Waxes are dull and weak.

Export Gasoline—New York

Featuring this market was the announcement by the Standard of New Jersey of the ½ cent advance. The new price is 28.40 cents a gallon. Bulk U. S. Motor is now quoted at 13 cents a gallon, refinery, although it was rumored 12¾ cents could have been done on a firm bid. There was an inquiry from the United Kingdom for 45.000 barrels of 64-66 gravity and U. S. Motor for May shipment but this is pending. Demand for cased gasoline is slightly better and one of the big Independents is working on an order for 35,000 cases for May shipment to Japan.

Export Gasoline—Gulf Ports

Bulk gasoline was ¼ to ¾ cent higher last week. Leading exporters were asking 11½ to 12 cents against 11¼ cents the previous week while 64-66 was held at 14½ cents to 14¾ cents against 14¼ cents the previous week. One of the leading refiners is negotiating with a French concern to sell 45,000 barrels of U. S. Motor and 61-63 gravity for May shipment. The latter grade is quoted at 13¾ cents a gallon. A big Independent is working on a similar cargo for April-May shipment to the United Kingdom. Continental buyers were more keenly interested as a result of the advances, and a Continental buyer, with French connections was inquiring for 42,000 barrels of U. S. Motor and 64-66 gravity for May shipment.

Cased gasoline was also higher at the Gulf. U. S. Motor is held at $2.25 a case and 64-66 at $2.40 a case in cargo lots. One of the big Independents is working on an order for 30,000 cases for nearby shipment to Australia. Another refiner expects to close 25,000 cases for May shipment to the Near East.

Domestic Gasoline—New York

Jobbing demand for gasoline continued to expand last week regardless of unfavorable weather conditions. The advance in the tank wagon price of gasoline in New Jersey has further improved sentiment, and the trade is rife with rumors of impending further advances. Marketers are anxious to contract ahead, but refiners are reluctant to sell beyond April delivery. At local refineries U. S. Motor is held at 13 cents a gallon, and in tank cars delivered to the trade at 14 cents. California gasoline is quoted around 13 cents, New York.

Domestic Gasoline—New Orleans

Advancing tank wagon prices in other sections of the country have tended to lead New Orleans observers to look for higher prices soon. U. S. Motor in tank cars at the refineries is still quoted at 11¼ to 11½ cents a gallon, but in view of the advance in export prices, little or nothing is available at inside price. Jobbing demand is more spirited than for several weeks.

Export Kerosene—New York

Kerosene prices were steady but quiet most of the week. Consumption is large for this time of the year, and observers do not look for any reductions during the immediate future. At New York harbor refineries water white is held at 9¼ cents a gallon while prime white is quoted at 8¾ cents a gallon. No export buying of consequence developed although the inquiry for cased kerosene has improved. A South American buyer purchased 20,000 cases from a leading refiner for April-May shipment, but details were lacking.

Export Kerosene—Gulf Ports

Export demand for kerosene is lagging. Water white is still held at 8½ cents a gallon, and prime at 7½ cents, in bulk, but no cargo movements were disclosed. A United Kingdom buyer was inquiring for 42,000 barrels of U. S. Motor, 64-66 gravity gasoline and prime and water white kerosene for May shipment but this did not materialize.

Cased kerosene demand is better and the price of water white was well held at $1.85 a case while prime was quoted at $1.75 a case. One of the big Independents is negotiating with a Chinese concern which has been inquiring for 40,000 cases for May shipment.

Domestic Kerosene

At Atlantic Seaboard refineries water white was generally quoted at 9¼ cents a gallon, and 10¼ cents delivered to the trade in tank cars while prime white was held at 8¾ cents, refinery, and 9¾ cents delivered. Jobbing demand has become more spasmodic, jobbers being unwilling to purchase far ahead in view of waning consumption. Tank wagon prices, however, have been well held.

Lubricants—New York

A fair sized export order for approximately 5,000 barrels of Pennsylvania cylinder stocks has been closed by one of the smaller Independents, but the market is still weak with 600 steam refined in barrels, New York, freely offered at 23 cents without attracting attention. French buyers are holding off; in fact, most of the Europeans apparently view domestic prices as too high and are waiting developments. Paraffin oils are dull but steady. Neutral oils were in slightly better domestic demand but no export buying was reported. Black oil was neglected.

Lubricants—Gulf Ports

Prices continued easy throughout the week. Export business was strictly hand-to-mouth. One of the large Independent marketers reported an inquiry for 30,000 barrels for May shipment to the Continent, but this failed to materialize. Stocks are large. Although domestic consumption is gaining the outlook is uncertain. Zero cold test oils are in large supply.

Waxes—New York

Demand for paraffin waxes continued disappointing. There appears to be more pressure to sell. Leading New York factors are offering 122-124 white crude scale freely at 5⅛ cents with buyers showing little or no interest. Export demand has been confined entirely to lots of five and ten tons. Europeans

Exports from Tampico District

Company	January	February
Transcontinental Petroleum Co., (Standard of New Jersey)	1,567,459	1,839,642
Pan American Eastern Oil Co.	2,422,410	2,276,380
Mexican Eagle Oil Co., (El Aguila)	420,608	612,556
Cia. Mexicana Holandesa "La Corona"	485,506	264,550
The Texas Co. of Mexico, S. A.	139,174	77,082
Mexican Gulf Oil Co.	731,703	875,347
Sinclair Mexican Companies	738,191	674,026
East Coast Oil Co. of Mexico, S. A., (Southern Pacific)	182,003	58,803
Panuco-Boston Oil Co.	70,982	51,680
Mexican Oil Products Co.	29,958	.....
Empire Gas & Fuel Co.	119,334	51,680
La Espuela Oil Co.	.....	207,191
Pierce Oil Corp.	2,992	.....
Mexican Atlas Oil Co.	.....	87,272
New England Fuel Oil Co.	.....	85,778
Interocean Oil Co.	.....	.....
Totals	6,910,320	7,161,937

are apparently securing Galician waxes at lower prices. The asking price for semi refined 122-124 A. m. p. is 5¼ cents while yellow crude scale 124-126 A. m. p. is offered at 5⅛ cents.

Fully refined waxes are plentiful. Some sellers are talking more bullishly but the majority report a depressed market. For 120-122 fully refined the price is 6 cents while 123-125 and 125-127 are quoted at 6⅛ cents a pound.

Waxes—Gulf Ports

Little export business developed. Prices are weak and foreign buyers are showing little interest. White crude scale 124-126 A. m. p. is offered around more freely at 5⅛ cents without attracting any attention while semi refined 124-126 A. m. p. is quoted at 5¼ cents. Fully refined 125-127 is dull at 5.85 cents; 128-130 is quoted at 5.90 cents; 133-135 at 6⅜ cents and 135-137 at 6¾ cents.

Bunker Oil—New York

Demand for bunker oil is less active but grade C is still quoted at $1.75 a barrel at the New York harbor refineries and $1.81½ f.a.s. New York harbor. Diesel oil is steady but dull at $2.30 a barrel refinery. Demand for prompt delivery is light. Stocks are fairly large and the movement in both oils is mainly against contracts. Little export interest was shown.

Bunker Oil—Gulf Ports

Demand for bunker oil is light and spasmodic. Leading factors are quoting $1.60 for bunkering purposes while cargoes are quoted $1.45 to $1.50 a barrel, New Orleans. No export sales were reported. At Tampico grade C was quoted at $1.45 in cargoes and $1.60 for bunkering including taxes. Heavy Panuco crude oil is firmer and is held at $1.18 a barrel, f.o.b. Tampico, taxes to be added.

Gas Oil—New York

Demand for gas oil is better. Stocks are in firm hands. Export demand is light but domestic consumption is large and local refiners are asking 6 cents a gallon for 36-40 in bulk at the local refineries while 28-34 is held at 5½ cents a gallon, same basis. There was an inquiry from the Continent for 28,000 barrels of 28-34 but this did not materialize.

Gas Oil—Gulf Ports

Gas oil was firm throughout the week. Export buyers have been "feeling out" the market but find difficulty in locating sellers at their ideas. Most refiners are asking 5¼ cents for 26-28 transparent gas oil, although small lots might have been picked up at 5 cents. Dark 32 plus gas oil was firm at 4¾ to 5 cents with little offered at the inside price. A big Independent was working on an inquiry from Scandinavia for 40,000 barrels of transparent gas oil for April-May shipment.

Petrolatums

Export interest in petrolatum is keener. United Kingdom and French facial cream manufacturers are buying in a slightly larger way. Prices are steady. Medicinal oils were dull and unchanged.

Complete Export Markets

New York Export Market

GASOLINE	April 12	April 5
U. S. Motor Tank cars Ref.	13	12¼-12½
U. S. Motor cases	28.40	-27.90
California grade U. S. Motor F. O. B. N. Y. Bulk	13	12¾-13
KEROSENE		
41-43-150 W. W. Tank cars Ref.	09¼	-09¼
41-43-150 W. W. Cases	19.40	-19.40
42-44-110 S. W. Cases	18.15	-18.15
GAS OIL		
36-40, Bulk Refinery	-06	-06
28-34, Bulf Refinery	-05½	-05½
MEXICAN BUNKER OIL		
Grade C, f. o. b. ref Bulk	1.75	- 1.75
Diesel Oil f. o. b. ref Bulk	2.30	- 2.30
LUBRICATING OILS		
The following prices are cooperage basis f. o. b. New York, products being manufactured by inland refineries		
CYLINDER OILS (Bbls.)		
1 inch Immersion Test; All Penna. Products		
Filtered D 600	30½	-30½
Filtered E 600	29	-28½
Unfiltered 600 s. r.	23	-23
Unfiltered 650 s. r.	28	-28
600 flash s. r.	30	-30
650 Flash	41	-40
RED PARAFFIN (Bbls.)		
(Viscosity at 70)		
300 vis. No. 5 color	21	-21
250 vis. No. 5 color	20	-20
High Viscosity No. 5 color	25	-25
NEUTRAL OILS (Bbls.)		
(Viscosity at 70)		
200 vis. at F. Pale. No. 3 color	-31	-31
180 Pale No. 3 color	-29	-29
150 Pale No. 3 color	-24½	-24½
BLACK OIL (Bbls.)		
25-30 cold test	13	-13
15 cold test	14½	-14½

MEDICINAL OILS (Includes Price of Drums) (Penna. Stocks)	April 12	April 5
Domestic 875-.885 s. g.	1.00-1.08	1.00-1.08
Domestic 865-.870 s. g.	.75- .80	.75- .80
Russian 885-.890 s. g. 325-330 vis.	1.20-1.25	1.20-1.25
WAXES (Penna. Stocks) (F. A. S. Carload Lots)		
WHITE CRUDE SCALE		
122-124 A. m. p.	-05¾	-05¾
124-126 A. m. p.	-05¼	-05¼
MATCH		
105-108 A. m. p.	-06	-06
FULLY REFINED		
120-122 A. m. p.	-06	-06
123-125 A. m. p. Philadelphia.	-06½	-06½
125-127 A. m. p.	-06½	-06½
128-130 A. m. p.	-06¾	-06¾
130-132 A. m. p.	-06¾	-06¾
133-135 A. m. p.	-06¾	-06¾
135-137 A. m. p. .07	-07¼	-07¼
SEMI REFINED		
122-124 A. m. p.	-05¾	-05¾
YELLOW CRUDE SCALE		
124-126 A. m. p.	-05¼	-05¼

PETROLATUMS (Penna. Stocks) Per Pound		
Dark Green	03	02¾
Veterinary	03¼	03¼
Light Amber	03¾	03¾
Dark Amber	03¾	03¾
Cream	06¾	06¾
Lily White	08½	08½
Snow White .11¾-11½	11	-11½

Gulf Export Market

GASOLINE
F. O. B. Seaboard
Shipments of 20,000 Bbls. and over

	April 12	April 5
U. S. Motor, Cargo .11½-.11¾	11	-.11¼
60-62 400 e. p Bulk	13¼	12¾-.13
64-66 385 e. p Bulk	14½	14¼-.14½
U. S. Motor, Cases (cargo lots)	2.25	2.20
64-66, Cases (cargo lots)	2.40	2.40
KEROSENE		
Water White, 41-43 bulk	08½	-08½
Prime White, 42-44 bulk	07½	-07½
Water White, cases (cargo lots)	1.80	-1.80
Prime White, cases (cargo lots)	1.70	-1.70
DOMESTIC GAS AND BUNKER OIL		
26-28, gravity, bulk*	05¼	-05¼
32 plus, bulk, Dark	05	-05
Grade C, Bunker oil	1.60	-1.60
Cargoes	1.45-1.50	-1.50

*Transparent through neck of a 4 oz. bottle.

MEXICAN CRUDE AND BUNKER OILS
F. O. B. Steamer Tampico

Heavy, Taxes to be added	1.18	1.15-1.20
Grade C, Bunker oil Taxes paid	1.45	-1.50
Grade C, Bunker oil F. A. S. New Orleans	1.60	1.60

SOUTH TEXAS
(Viscosity at 100°F; cold test 0)
(Tanker, F. O. B. Houston)

LUBRICATING OILS	April 12	April 5
100 Vis. No. 2 Unfiltered Pale	07	07
150 Vis. No. 2½ Unfiltered Pale	09	09
200 Vis. No. 3 Unfiltered Pale	11	11
300 Vis. No. 3 Unfiltered Pale	13½	13
500 Vis. No. 3½ Unfiltered Pale	14	14½
200 Vis. No. 5½ Red Oil	11	11
300 Vis. No. 5½ Red Oil	12	12
500 Vis. No. 6 Red Oil	13	13
800 Vis. No. 6 Red Oil	16¼	16¼

Pacific Export Market

(Cargo lots quotations at seaboard, Los Angeles)

	April 12	April 5
Gasoline, U. S. Motor— 54°-56°	11 -11¼	11 -12
Gasoline, U. S. Motor— blends and special cuts	11¾-12	12 -13
Gas Oil, 24°—30°B. per bbl.	$1.15	$1.15
Diesel Oil, 27°B—plus per bbl	$1.15	$1.15
Bunker Oil, 14°—18°B. per bbl.	$1.00	$1.00
Fuel Oil, 14°—18°B. per bbl.	$1.00	$1.00
Kerosene, W. W. 40°—42° B per gal., 125-150 flash test	.06 -07½	09½-10½
Cased Goods		
Gasoline, U. S. Motor	$2.55	$2.55
Kerosene, W. W. 38°—40° B per case, flash test 125-150	$1.50-1.55	$1.50-1.60

N. Y. Domestic Market

The following light oil, gas and fuel oil prices are F. O. B. New York refineries, being products made from Domestic (including California) and Mexican Crudes.

	April 12	April 5
U. S. Motor Gasoline, Tank Cars Delivered greater N. Y.	-14	13¼-13½
U. S. Motor Gasoline, Tank Cars Bayonne	-13	12¼-12½
Kerosene, 41-43 150 W. W. Tank Cars De'd greater N.Y.	-10¼	-.10¾
Grade C Bunker f.o.b. N.Y. Ref.	1.75	1.75
Diesel Oil f. o. b. Refinery	2.30	2.30
Gas Oil, 36-40, Bulk Refinery	-06	-06
Gas Oil 28-34 Bulk, Refinery	-05½	-05½

Crude Oil Prices All Fields

PRICES IN EFFECT, *April 12*

EASTERN FIELDS

Posted by Joseph Seep Purchasing Agency

Penna. Grade Oil in New York Transit Lines (Alleghany, N. Y. District)	$3.65
Bradford District Oil in National Transit Lines (Bradford District)	3.65
Penna. Grade Oil in National Transit Lines (Other Pennsylvania)	3.55
Penna. Grade Oil in Southwest Penna. Pipe Lines (Other Pennsylvania)	3.55
Penna. Grade Oil in Eureka Pipe Lines (West Virginia)	3.50
Penna. Grade Oil in Buckeye Pipe Lines (Macksburg, O. district)	3.30
Keister Grade in National Transit Lines (Butler Co.)	2.45
Gaines, Tioga Co. (Pa.)	2.95
Cabell Grade in Eureka Pipe Lines (West Virginia)	2.20
Corning Grade in Buckeye Pipe Lines (Ohio)	2.35
*Somerest Medium in Cumberland Pipe Lines (Kentucky)	2.30
*Somerset Light in Cumberland Pipe Lines (Kentucky)	2.45
Ragland Grade in Cumberland Pipe Lines (Kentucky)	1.15

*Somerset oil run prior to Oct. 1, 1923, takes price of 6 cents lower than above quotations.

CENTRAL STATES FIELDS

Posted by Ohio Oil Co.

Wooster	$2.35	Illinois	$2.12
Lima	2.23	Plymouth	1.65
Waterloo	1.10	*Canadian Petrolia	2.63
Indiana	2.00	*Posted by Imperial Oil, Ltd.	
Princeton	2.12		

OKLAHOMA, KANSAS And NORTH TEXAS FIELDS

(Prices of Prairie Oil & Gas Co.)
(Prairie's prices apply in Oklahoma, Kansas, North and Central Texas)

28-28.9	$1.40	41-41.9	$2.44
29-29.9	1.48	42-42.9	2.52
30-30.9	1.56	43-43.9	2.60
31-31.9	1.64	44-44.9	2.68
32-32.9	1.72	45-45.9	2.76
33-33.9	1.80	46-46.9	2.84
34-34.9	1.88	47-47.9	2.92
35-35.9	1.96	48-48.9	3.00
36-36.9	2.04	49-49.9	3.08
37-37.9	2.12	50-50.9	3.16
38-38.9	2.20	51-51.9	3.24
39-39.9	2.28	52 and above	3.32
40-40.9	2.36		

The Texas Co. adopted same schedule as Prairie on Feb. 1.

Humble Oil & Refining Co. Prices

(Ranger, North Texas, Mexia, Powell, Richland, Wortham, Lytton Springs, Currie and Moran crudes all in Texas.)

Effective Feb. 1, Humble posted same gravity and price schedule in all the above fields as that posted by Prairie, excepting that Humble is paying 8c less for each full degree below 28 gravity.

Magnolia Petroleum Co. Prices In Oklahoma, Kansas and North Texas

Effective Feb. 1, Magnolia posted same gravity and price schedule as Prairie, in all fields where it purchases on a gravity basis, excepting that it is paying $1.20 for all oil below 28 gravity.

Effective Feb. 1, Corsicana heavy was advanced to $1.15 per barrel.

NORTH LOUISIANA—ARKANSAS FIELDS

***Prices of the Standard Oil Co. of Louisiana**

Caddo, below 32	$1.85
" below 32-34.9	2.00
" 35-37.9	2.10
" 38 and above	2.20
Homer, below 31	1.60
" 31-32.9	1.75
" 33-34.9	1.85
" 35 and above	1.95
Haynesville, below 33	1.75
" 33 and above	1.85
El Dorado, below 33	1.75
" 33 and above	1.85
Bull Bayou, 32-34.9	1.70
" 35-37.9	1.85
" 38 and above	2.00
Smackover, below 24	1.00
" 24-24.9	1.25
" 25-25.9	1.30
" 26-26.9	1.35
" 27 and above	1.40
De Soto	2.05
Crichton	1.85
Bellevue	1.50
Cotton Valley	1.10
**Urania, La.	1.30

*Same prices maintained by The Texas Co., Gulf Refining Co. of Louisiana and Louisiana Oil Refining Corp. All purchasers of Smackover have maintained since Feb. 1 and 2, the same gravity and price schedule as Standard. Gulf is paying 95c for Calion (East El Dorado Crude.)

**Posted by Louisiana Oil Refining Corp.

STEPHENS, ARKANSAS

Posted by Louisiana Oil Refining Corp., and Atlantic Oil Producing Co.

26 and above	$1.50
Below 26	$1.30

GULF COASTAL FIELDS

Posted by Humble Oil & Refining Co.

Grades A	$1.50	27-27.9	$1.40
Grades B:		28-28.9	1.45
Below 25	1.25	29-29.9	1.50
25-25.9	1.30	30 and above	1.55
26-26.9	1.35		

Humble is paying the above prices in Goose Creek, Hull, Liberty, West Columbia, Orange and Pierce Junction fields. All other Gulf Coastal crudes are classified as A grades only. Other major purchasers are The Texas Co., Gulf Production Co., Sun Oil Co., and Sinclair Crude Oil Purchasing Co.

ROCKY MOUNTAIN FIELDS

Prices of Ohio Oil Co. and Midwest Refining Co.

†Salt Creek 29-29.9	$1.48
Salt Creek 30-30.9	1.56
Salt Creek 31-31.9	1.64
Salt Creek 32-32.9	1.72
Salt Creek 33-33.9	1.80
Salt Creek 34-34.9	1.88
Salt Creek 35-35.9	1.96
Salt Creek 36-36.9	2.04
Salt Creek 37 and above	2.12
Elk Basin	2.15
Grass Creek light	2.15
Big Muddy	2.00
Lance Creek	2.15
Rock Creek	2.00
†Osage	2.15
†Cat Creek, Mont.	2.15
Sunburst, Mont.	1.15
†Hogback, N. Mex.	2.20
Artesia, N. Mex.	1.70

†Posted by Midwest Refining Co. Midwest also buys Grass Creek light, and Elk Basin.

The Texas Co. buys Salt Creek and Big Muddy crude.

CALIFORNIA

Standard Oil Co. of California

Santa Maria and Ventura Posted by *Union Oil Co.

Gravity	Signal Hill Huntington Beach	Inglewood Torrance	Whittier La Habra	Newhall, McKittrick, Kern River	Olinda-Brea Canon, Richfield	Athens-Rosecrans Dominguez	Monte-bello	Coyote Hills	Santa Fe Springs	Midway-Sunset Elk Hills	Lost Hills	Coalinga	Wheeler Ridge	Santa Maria	Ventura
14-14.9	$ .85	$ .85	$ .85	$ .75	$ .85	.....	$ .85	$ .85	.....	$ .75	$ .75	$ .75	$ .75	$ .85	$ .85
15-15.9	.87	.87	.85	.75	.87	.....	.85	.85	.....	.75	.75	.75	.75	.85	.85
16-16.9	.90	.90	.85	.75	.90	.....	.85	.85	.....	.75	.75	.75	.75	.85	.85
17-17.9	.94	.94	.85	.75	.94	.....	.85	.85	.....	.75	.75	.75	.75	.85	.85
18-18.9	.98	.98	.86	.75	.98	.....	.86	.86	.....	.75	.75	.75	.75	.85	.85
19-19.9	1.04	1.04	.87	.75	1.04	.....	.87	.87	.....	.75	.75	.75	.75	.85	.85
20-20.9	1.10	1.10	.89	.....	1.10	.....	.89	.90	.....	.82	.82	.79	.78	.90	.90
21-21.9	1.16	1.16	.91	.....	1.16	.....	.91	.98	.....	.90	.90	.86	.81	.97	.97
22-22.9	1.22	1.22	.94	.....	1.22	.....	.94	1.06	.....	1.00	1.00	.93	.85	1.04	1.04
23-23.9	1.28	1.28	.....	.....	1.28	.....	.97	1.14	.....	1.11	1.11	1.00	.89	1.11	1.11
24-24.9	1.34	1.34	.....	.....	1.34	$1.34	1.01	1.22	1.02	1.22	1.22	1.07	.93	1.18	1.18
25-25.9	1.40	1.40	.....	.....	1.40	1.40	1.05	1.30	1.08	1.33	1.33	1.14	.97	1.25	1.25
26-26.9	1.46	1.46	.....	.....	1.46	1.46	1.09	1.38	1.16	1.44	1.44	1.21	1.01	1.32	1.32
27-27.9	1.52	1.52	.....	.....	1.52	1.52	1.13	1.46	1.24	1.55	1.55	1.28	1.05	1.39	1.39
28-28.9	1.58	1.58	.....	.....	1.58	1.58	1.17	1.54	1.32	1.66	1.66	1.35	.....	1.46	1.46
29-29.9	1.64	.....	.....	.....	1.64	1.64	1.21	1.62	1.40	1.77	1.77	1.42	.....	1.53	1.53
30-30.9	1.70	.....	.....	.....	1.70	1.70	1.25	1.70	1.48	1.88	1.88	1.49	.....	1.60	1.60
31-31.9	1.76	.....	.....	.....	.....	1.76	.....	.....	1.60	1.99	1.99	1.56	.....	.....	1.67
32-32.9	1.84	.....	.....	.....	.....	1.84	.....	.....	1.72	2.10	2.10	1.63	.....	.....	1.73
33-33.9	.....	.....	.....	.....	.....	1.92	.....	.....	1.84	2.21	2.21	1.70	.....	.....	1.79
34-34.9	.....	.....	.....	.....	.....	2.00	.....	.....	1.96	.....	2.32	1.77	.....	.....	1.85
35-35.9	.....	.....	.....	.....	.....	2.08	.....	.....	2.08	.....	.....	1.84	.....	.....	1.92
36-36.9	.....	.....	.....	.....	.....	2.16	.....	.....	2.16	.....	.....	.....	.....		
37-37.9	.....	.....	.....	.....	.....	2.24	.....	.....	2.24	.....	.....	.....	.....		
38-38.9	.....	.....	.....	.....	.....	2.34	.....	.....	2.34	.....	.....	.....	.....		
39-39.9	.....	.....	.....	.....	.....	2.44	.....	.....	2.44	.....	.....	.....	.....		
40-40.9	.....	.....	.....	.....	.....	2.54	.....	.....	.....	.....	.....	.....	.....		
41-41.9	.....	.....	.....	.....	.....	2.64	.....	.....	.....	.....	.....	.....	.....		
42-42.9	.....	.....	.....	.....	.....	2.74	.....	.....	.....	.....	.....	.....	.....		

*Union Oil Co. also purchases Long Beach crude and is maintaining the same gravity and price schedule in that field as the Standard maintains in Signal Hill and Huntington Beach fields. The Union also buys and pays the same prices as the Standard in the Rosecrans-Dominguez fields, on gravities ranging from 14 degrees to and including 24.9 degrees; and in Santa Fe Springs, on gravities ranging from 20 to and including 23.9 degrees.

REFINERS' and COMPOUNDERS' SUPPLIES

Following are the average market prices for the week on materials used by refiners and compounders f. o. b. shipping point as effective this date.

Refiners' Supplies

	April 12	April 5
Soda Ash light 58% bags.cwt.	-$1.38	-$1.38
Silicate of Soda 60 deg. drums.....cwt.	- 1.65	- 1.65
Sal Soda wks.....1.10-	1.25	1.10- 1.25
Caustic Soda 70% solid. cwt.	- 3.10	- 3.10
Chloride of Lime.....cwt. works.....	- 2.00	- 2.00
Sulphuric Acid 60 deg. tank cars f. o. b. shipping point .....per ton	-10.00	-10.00
Liquid Chlorine tank cars works.....lb.	- .04	- .04

Compounders' Supplies (Open Market)

Vegetable Oils—		
Linseed carloads spot.....lb.	10.7	10.7
April	10.7	10.7
Tanks, spot.....	9.8	9.8
Boiled carloads spot.....lb.	10.8	10.8
*Soya Bean spot, Bbls....lb.	13½	13½
Animal Oils—		
English Degras.....lb.	.05½	-.05½
Domestic Degras, bbls., carloads.....lb.	-.04¾	-.04¾
*Horse.....lb.	-.09½	-.09½
Oleic Acid—		
Dist. Bbls.....lb..10¼	-.11	.10¾-.11
Saponified Bbls.....lb..11	-.11¼	.11 -.11¼
Castor Oil—		
No. 1 Carlots, Bbls.....	-.13½	-.13½
No. 3 Carlots, Bbls.....	-.13	-.13
Lard Oils—		
Prime		
Winter Strained. to 1½ffa.40/45c.t.lb.	.17¼	.17¼
Extra		
Winter Strained. 2 to 4½ffa.40/45c.t.lb.	.13½	.13½
Extra..... 4 to 5 ffa.40/45c.t.lb.	.13	.13
Extra No.1 7 to 10 ffa.40/50c.t.lb.	.12¾	.12¾
No. 1.....13 to 18 ffa.40/45c.t.lb.	.12½	.12½
No. 2.....22 to 23 ffa.40/45c.t.lb.	.12¼	.12¼
Prime Edible Tallow under 1¼ffa.		
40/45c.t.N.Y .....lb.	-.09¾	-.09¾
Tallow acidless.....lb.	-.12½	-.12½
Lard Stearine.....lb.	nominal	nominal
Oleo Stearine.....lb.	-.11½	-.11½
Neatsfoot Oil—		
Pure.....bbls.-lb.		.16¾ .16¾
Extra.....do lb.		.12¾ .12¾
No. 1.....bbls.-lb.		.12½ .12½
Cold pressed.....lb.		.20 .20½
Fish Oils—		
Menhaden Oil		
Light pressed.....gal.	-.65	-.65
White.....gal.	-.67	-.67
Yellow bleached .....gal.	-.70	-.70
*Herring tank cars coast.....gal.	-.50	-.50
Whale, extra winter bleached.....gal.	-.82	-.82
Seal .....gal.		Nominal
Naval Stores—		
Turpentine, N. Y.....gal.	.98½	1.02
Turpentine†.....gal.	.92	95½
Rosin, B. N. Y.....bbl.	9.60	9.60
Rosin, F. N. Y.....bbl.	13.40	13.40
Rosin, B†.....bbl.	8.10	8.10
Rosin, F†.....bbl.	11.90	11.90
Rosin Oil 1st run.....gal.	.55	.55
Rosin Oil 2nd run.....gal.	.60	.60
Pine Tar—		
Kiln Burnt.....bbl.	15.00	15.00
Retort.....bbl.	16.00	16.00
†Savannah, Ga. market.		
*Nominal		
Alcohol—Denatured		
Formula 5		
Bbls .....gal.	-31	-31
Drums.....gal.	-27	-27

Caustic Soda and Sulfuric Acid Demand Increases

By Special Correspondent

NEW YORK, April 12.—Following is a review of the markets for oils and supplies used in compounding and refining:

Alcohol demand lighter. Prices are weak, but no further cuts are expected. Bottom believed reached. Stocks moderate. Production falling off.

Linseed Oil easier reflecting slump in demand for futures. Most big buyers operating hand to mouth way. Flaxseed price trend irregular. Stocks of linseed oil fair. Soya bean oil dull and unchanged.

Animal Oils quiet. Demand mainly for small quantities for immediate consumption. More interest in tallow and oleo oils. Oleo stearine marking time. Domestic degras dull and unchanged. Little doing in neatsfoot or lard oils. Horse oil quiet at 9½ cents.

Fish Oils much weaker as buyers hold off. Light pressed menhaden oil available 65 cents a gallon in barrels, New York. More interest in cod oil. Crude menhaden oil nominal. Whale oil quiet.

Soda Ash demand slightly more active. Better inquiry for future deliveries and prices steady.

Sulphuric Acid demand improving but business chiefly routine at unchanged prices. Stocks fair.

Sal Soda dull, but steady. Demand disappointing. Export interest less keen.

Caustic Soda demand slightly more spirited. Larger buyers show more interest in future deliveries. Export inquiry better.

Naval Stores steady. Turpentine demand good. London buying more actively. Stocks smaller as receipts decline. Domestic consumption is gaining. Medium grades of rosins offered more sparingly. Receipts falling and scarcity is predicted. Rosin oils quiet. Tar and pitch dull but steady.

Liquid Chlorine demand slightly better at 4 cents pound, tanks works. More interest in future deliveries.

Benzol Market is Firmer

NEW YORK, April 12.—Motor benzol production is declining and the price, although quotations are unchanged, is firmer at 24 cents a gallon in tank cars at the ovens. The recent advance in Eastern gasoline tank wagon prices has created a bullish sentiment in motor benzol circles. Spot stocks are light, and jobbers report increasing difficulty in booking forward contracts.

Motor fuel mixture makers are buying more. Export demand is also more spirited but few of the big marketers are offering beyond immediate delivery to the domestic trade only. Pure and 90 per cent benzols were steady but quiet.

Foreign Opportunities

19729.—**Lubricating oils,** Nuremburg, Germany, agency.

19730.—**Gasoline and kerosene,** Zurich, Switzerland, agency.

19759.—**Gasoline** in 10,000-ton lots, Ngaruawahia, New Zealand, purchase.

19760.—**Distillate** for fuel, Toronto, Canada, purchase.

19799.—**Petroleum products,** Porto Alegre, Brazil, agency.

Michigan Has Another Petroleum Club

GRAND RAPIDS, MICH., April 12.—The Grand Rapids Petroleum Club was formed on April 2 at a meeting of the Independent oil jobbers of Grand Rapids at the Morton Hotel here. The club will meet once each month in the evening for dinner and a discussion of topics affecting the oil industry, especially as it concerns Grand Rapids jobbers, according to James A. Gilmore, secretary of the Michigan Independent Oil Men's Association.

Inasmuch as the headquarters of the state jobbers association is at Grand Rapids, the new club elected Mr. Gilmore, president, F. S. Grimes, of Grimes & Madigan, Inc., vice president, and H. H. Cornelius, of the National Cooperative Oil Co., secretary and treasurer.

The club, like all similar clubs, will be affiliated with the Michigan jobbers association. The next meeting of the club will be on May 4 at the Morton Hotel, and any visiting oil men will be welcome, Mr. Gilmore states.

Eastern and Central Kentucky Markets

Very little change is noted in the Kentucky markets during the past week. In the central district some 58-60 U. S. Motor gasoline has sold at 11¾c, but the latest quotations are 12c flat.

Eastern district is practically unchanged with the exception of 68-70 gasoline 350-360 end point which has eased off ¼c. Following are today's quotations:—

	Eastern	Central
58-60 Gasoline	12¾	12
60-62 Gasoline	13¼	13
64-66 Gasoline	14	13½
68-70 Gasoline 350 to 360 end point	14¾	14½
Fuel oil 24-26	5⅛	....
Kerosene 41-43 water white	....	8¾
Gas oil	6¼	5¾

OIL STOCKS AND FINANCES

National Petroleum News

Standard of Ohio Earnings Are Lower

CLEVELAND, April 12

STANDARD Oil Co. of Ohio reports for 1925 indicates a small decline in net earnings from the 1924 earnings. The company does not issue an income report to its stockholders but additions to surplus indicate net earnings of $21.18 per share after all charges and dividends on the preferred stock. The indicated earnings in the common stock in 1924 was $23.15 per share. Indicated earnings on the common stock since the dissolution have been:

1925	$21.18	1918	$38.95
1924	23.15	1917	46.17
1923	18.95	1916	53.90
1922	40.89*	1915	60.76
1921	51.56	1914	34.20
1920	62.20	1913	50.30
1919	58.94	1912	45.81

*After payment of 100% in stock.

Standard of Ohio Balance Sheets as of Dec. 31

	1925	1924	1923	1922	1921
ASSETS					
Plant	$37,835,801	$36,415,402	$34,104,306	$29,116,281	$27,273,298
Merchandise	7,236,809	5,391,082	5,906,186	5,823,172	6,034,224
Cash	422,240	249,698	237,306	295,651	465,253
Accounts receivable, investments	7,951,740	7,890,336	7,004,088	9,973,286	4,938,587
Total	$53,446,590	$49,946,508	$47,251,886	$45,208,390	$38,711,362
LIABILITIES					
Common stock	$14,000,000	$14,000,000	$14,000,000	$14,000,000	$ 7,000,000
Preferred stock	7,000,000	7,000,000	7,000,000	7,000,000	7,000,000
Accounts payable	3,427,708	2,711,397	2,686,864	2,265,992	2,317,505
Tax and annuity reserve	1,101,335	1,095,609	1,026,028	1,518,831	574,796
Depreciation reserve	8,307,837	7,095,213	6,336,528	5,474,267	4,474,598
Surplus	19,609,710	18,044,288	16,202,466	14,949,300	17,344,463
Total	$53,446,590	$49,946,508	$47,251,886	$45,208,390	$38,711,362

Prairie Oil & Gas Reports Largest Net Earnings Since 1920

CLEVELAND, April 12

PRAIRIE Oil & Gas Co. report for 1925 indicates net profits of $15,801,637, the largest amount since 1920. The company paid dividends in only the first two quarters of the year because conditions in the oil industry necessitated conservation of capital within the company, it was announced when the third quarter dividend was passed. Should earnings maintain the 1925 rate this year, it is probable that dividends will be resumed.

After payments to stockholders in the first half of last year, the company had a balance of $13,401,637 which was transferred to the surplus account. Inventories on Dec. 31 were almost $6,000,000 larger than at the end of 1924. The report shows an increase of $4,842,542 in the property account and $4,751,951 in investments. Increase in inventory account probably reflects increased value of crude oil held in storage as well as additions to the stocks during the year.

The 1925 earnings were at the rate of $6.58 per $25 share as compared with $4.17 per share in 1924.

Prairie Oil and Gas Co. Income Accounts

	1925	1924	1923	1922	1921
Net income	$ 15,801,637	$ 10,330,415	$ 8,831,238	$ 10,142,792	*$ 2,630,261
Dividends	2,400,000	4,800,000	4,488,204	3,976,068	4,140,000
Surplus	$ 13,401,637	$ 5,530,415	$ 4,343,034	$ 6,166,724	*$ 6,770,261

*Deficit.

Prairie Oil and Gas Co. Balance Sheets as of Dec. 31

	1925	1924	1923	1922	1921
ASSETS					
Real Estate	$ 608,532	$ 623,386	$ 623,992	$ 639,704	$ 642,119
Personal Property	34,344,477	29,501,935	18,963,016	21,577,457	27,385,689
Bills Receivable	260,000	1,535,000	11,550,000	16,475,000	25,450,000
Accounts Receivable	19,102,068	22,491,128	24,660,285	20,771,320	18,390,575
Securities	23,500,753	18,748,802	17,246,055	5,977,530	4,572,500
Inventories	72,090,553	66,321,257	54,711,569	56,684,193	42,529,065
Cash	4,517,709	3,584,619	4,136,053	6,594,778	11,935,810
Total	$154,424,096	$142,806,127	$131,890,970	$128,729,982	$130,905,758
LIABILLTIES					
Capital Stock	$ 60,000,000	$ 60,000,000	$ 60,000,000	$ 54,083,400	$ 18,000,000
Stock sold employees	40,125	.....	.....	.....	.....
Bills, Accounts payable	14,948,708	16,772,503	11,387,761	17,766,407	26,108,907
Surplus	79,435,262	66,033,624	60,503,209	56,160,175	86,796,851
Total	$154,424,096	$142,806,127	$131,890,970	$128,729,982	$130,905,758

Oklahoma Gas Income Falls

CLEVELAND, April 12.—Oklahoma Natural Gas Co. in 1925 netted $1,797,382 after expenses and interest but before depreciation and depletion, as compared with $2,014,123 in 1924. Condensed income accounts for 1925 and 1924 compare:

	1925	1924
Gross	$6,115,235	$5,487,530
Expenses	4,264,069	3,440,437
Operating profit	$1,851,166	$2,047,093
Interest	53,784	32,970
Net income*	$1,797,382	$2,014,123
Dividends	1,143,440	1,142,881
Surplus*	$ 653,942	$ 271,242

*Before depreciation and depletion.

Oil Dividends

	Amt.	Payable		Stock of Record	
Mid-Continent Pet. pfd. q.	$1.75	June	1	May	15
Salt Creek Prod. q.	20c	May	1	Apr.	15
do extra	42½c	May	1	Apr.	15
Washington Oil q.	8¢	Apr.	20	Apr.	15
H. F. Wilcox q.	50c	May	3	Apr.	15

Cleveland Stock Market

April 9

	Par	Bid	Asked	Last Sale
Canfield Oil Co.	$100	.....	110	107
do pfd.	100	.....	100	100
Fred G. Clark Co.	10	3¼	4¼	3⅝
National Refining Co.	25	38¾	39	39
do pfd.	100	.....	135	129½
Paragon Refining Co.	25	7	8	7
do pfd.	100	.....	.....	.....

x—Ex dividend.

Transactions In Oil Shares on New York Stock Exchange

1925 High	1925 Low	1926 High	1926 Low		Listed Capital	Par Value	Stocks	Div. Rate	Last Paid	Transactions week ended April 10 Sales	First	High	Low	Last	Ch'ge
.....	.....	26⅜	24¾	(sh)	713,000	N P	Amerada Corp.	.....	.....	4,800	24⅜	26⅛	25⅜	26⅛	+ ⅜
79¾	48	74	68	(sh)	200,000	N.P.	American Republics	.....	.....	200	68	68	68	68	+2
47⅞	32	59⅛	44¾	$	56,000,000	$25	Associated Oil	50cQ	Jan. 25, 26	200	49	49	48	48	—1⅛
117⅜	95½	110	97		50,000,000	100	Atlantic Refining	.....	June 16, 24	10,500	105⅞	109	103	107	+2¼
117¾	113½	117½	115⅜		20,000,000	100	do pfd	$1¾Q	Feb. 1, 26	100	115⅜	115⅜	115⅜	115⅜	—1⅜
35½	18¾	33½	24⅜		18,428,350	25	Barnsdall Corp. A	50cQ	Apr. 2, 26	6,900	27½	27⅞	25½	26¾	— ⅜
30	16	29½	24¼		3,713,275	25	do B	50cQ	Apr. 2, 26	200	24½	24¾	24½	24¾	+ ¼
34¾	23¾	38⅝	30¾	$	44,923,000	$25	California Petroleum	50cQ	Mar. 1, 26	43,400	35	35	32½	33½	—1½
70	42½	73	50		19,884,300	100	General Asphalt	.....	.....	35,900	61⅛	62⅜	59⅜	59¾	—1¼
109	86½	114¾	94⅞		7,416,000	100	do pfd	$1½Q	Mar. 1, 26	1,200	101	104½	100¾	101	0
59⅛	42	65¾	49½		29,223,650	$25	General Petroleum	75cQ	Mar. 15, 26	33,400	59¼	60½	58	59¾	+ ⅜
85	59	72	50½		25,000,000	100	Houston Oil	.....	.....	2,000	56	58¾	55⅞	55⅞	— ⅛
41¾	13½	34	19¾	(sh)	500,000	N.P.	Independent Oil & Gas	25cQ	Apr. 12, 26	12,200	23⅝	24⅜	23	23	— ¾
14¾	5½	13¾	9	$	3,204,590	$10	Indian Refining	.....	Dec. 15, 20	600	10⅜	10⅜	9½	9⅝	— ¾
12⅜	6	12⅛	8¼		4,545,860	10	do ctfs	.....	.....	.....	.....	.....	.....	.....	.....
110	77	104	90¼		2,296,400	100	do pfd	.....	Dec. 15, 21	.....	.....	.....	.....	.....	.....
1⅛	¼	¾	¼		1,678,760	10	Kansas & Gulf	.....	.....	600	⅜	⅜	⅛	⅛	— ⅛
23¾	13¾	19⅝	12	(sh)	1,121,530	N.P.	Louisiana Oil	.....	.....	2,600	14½	14⅞	14⅛	14⅜	— ⅜
35½	20¼	28¾	20¾	(sh)	330,000	N.P.	Maracaibo Oil	.....	.....	1,700	23⅛	24	22	22¾	—1¼
60½	32½	60¼	49¾	(sh)	1,894,518	N.P.	Marland Oil Co.	$1Q	Mar. 31, 26	29,900	53¼	54⅜	52	53⅛	— ⅜
250	225	.....	.....	$	45,942,800	$100	Mexican Petroleum	$5Q	Apr. 20, 26	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....		12,000,000	100	do pfd	$2Q	Apr. 20, 26	.....	.....	.....	.....	.....	.....
22½	9	12⅜	6	(sh)	945,939	N.P.	Mexican Seaboard	.....	Nov. 15, 24	14,300	7⅜	10¼	7⅜	9¼	+1½
38	25¾	37	28	(sh)	1,357,800	N.P.	Mid-Continent Petroleum	.....	Aug. 1, 23	15,400	31	31	29⅛	29⅜	—1⅜
94¾	88	97	90	$	6,718,000	$100	do pfd	$1¾Q	Mar. 1, 26	.....	.....	.....	.....	.....	.....
3¾	⅜	2½	1⅛		26,013,760	10	Middle States	.....	July 1, 25	18,100	1½	2	1½	1½	+1⅛
1⅛	1⅛	1⅜	⅞		3,786,460	....	do ctfs	.....	.....	1,300	1	1	1	1	+ ⅛
78½	51¾	83¼	51¾	(sh)	3,500,000	N.P.	Pacific Oil	$1.50S.A.	Jan. 20, 26	12,600	53⅞	55	53⅝	54½	+ ¾
85¾	59½	76½	56¾	$	48,307,400	$50	Pan American P. & T.	$1.50Q	Apr. 20, 26	1,700	62	63¼	x61¾	62	0
84½	60¾	78⅜	56¾		90,484,800	50	do B	$1.50Q	Apr. 20, 26	25,900	62¾	64¾	x62⅛	62¾	— ⅛
49¾	37½	46	34	(sh)	400,000	N.P.	Pan American Western B	50cQ	Jan 30, 26	5,100	37¼	38	36	37⅛	+ ⅜
6¾	2¾	11⅜	4½	(sh)	198,770	N.P.	Panhandle P. & R.	.....	.....	7,600	8	10	7¾	9	+ ¼
60½	37	85	51	$	2,935,200	$100	do pfd	.....	July 2, 23	500	72	74¾	72	74¾	+4¾
47¾	36½	48⅝	40	(sh)	2,045,381	N.P.	Phillips Petroleum	75cQ	Apr. 1, 26	29,800	43⅝	43¾	42½	43	— ½
3½	1¼	1⅞	1	$	29,622,925	$25	Pierce Oil Corp.	.....	.....	1,200	1¾	1¾	1⅜	1⅜	0
40	20¼	27¼	20½		15,000,000	100	do pfd.	.....	Feb. 1, 22	.....	.....	.....	.....	.....	.....
8¼	4½	7	4¾	(sh)	2,500,000	N.P.	Pierce Petroleum	.....	.....	2,300	4¾	4⅞	4½	4½	— ¼
32⅝	12½	17½	11	$	11,467,850	$50	Producers & Refiners	.....	Sept. 15, 23	2,100	13	13½	12½	13	0
47⅜	27	35	31		2,845,350	50	do pfd	.....	May 1, 25	100	31⅝	31⅝	31⅜	31⅝	+ ⅜
33¾	25⅜	31	25⅝		75,959,250	25	Pure Oil Co.	$7½cQ	Mar 1, 26	4,700	26⅞	26⅞	26¼	26⅜	— ⅜
108½	103	111¾	107		13,000,000	100	do 8% pfd.	$2Q	Apr. 1, 26	100	108	108	108	108	+ ⅛
57¾	48¼	57¾	50	(sh)	773,883	13.40	Royal Dutch, N. Y. shares	$1.339	Jan. 29, 26	2,100	51⅝	52¾	51½	52	+ ⅜
49	39½	48⅝	42¾	(sh)	93,599	£2	Shell Transport & T.	96½c	Jan. 22, 26	100	42⅞	42⅞	42⅞	42⅞	— ½
28⅜	21⅝	28⅛	24	(sh)	10,000,000	N.P.	Shell Union Oil	35cQ	Mar. 31, 26	12,000	24⅞	25¼	24⅝	25⅛	+ ⅜
106½	99½	106½	103	$	20,000,000	$100	do pfd.	$1½Q	Feb. 15, 26	100	103⅞	103⅞	103¾	103¾	— ¼
28½	17¾	28⅝	19⅞		7,207,620	10	Simms Petroleum	50cS.A.	Jan. 2, 26	10,600	21⅞	22⅛	21	21¼	— ⅜
24⅞	17	24⅜	19⅜	(sh)	4,489,320	N.P.	Sinclair Consolidated	.....	May 31, 24	29,800	21⅜	21¾	20½	20⅞	— ⅜
94⅜	78¾	95	90	$	17,852,200	$100	do pfd.	$2Q	Feb 15, 26	500	93	93	91	93	+ ¾
32½	21¾	32⅞	26⅝		23,024,590	$25	Skelly Oil Co.	50cQ	Mar. 15, 26	15,700	30½	30⅞	29⅞	30⅝	+ ¼
67¾	51½	62¾	52½		237,610,350	$25	S. O. California	50cQ	Mar. 15, 26	9,300	54¾	55	54¼	54½	0
47½	38¾	46¾	40¼		513,456,025	$25	S. O. New Jersey	25cQ	Mar 15, 26	20,200	42⅝	43¼	41¾	42¼	— ⅝
119	116¾	118⅝	118¼		199,972,900	100	do pfd.	$1¾Q	Mar. 15, 26	2,700	117½	117½	117⅛	117½	— ⅛
43⅞	38¾	41⅝	30¾	(sh)	1,108,776	N.P.	Sun Oil	25cQ	Mar 15, 26	400	33⅛	33½	33	33	0
6⅜	2	4¼	2½	(sh)	1,121,368	N.P.	Superior Oil Corp.	.....	Dec 20, 20	400	2¾	2¾	2⅜	2⅜	— ⅝
55	42¾	54	48	$	164,450,000	$25	The Texas Co.	75cQ	Mar. 31, 26	24,800	51⅛	51¾	50¼	50⅞	+ ⅛
23¾	10⅞	19½	12¾		8,380,340	10	Texas Pacific Coal & Oil	.....	June 30, 23	8,100	14	14⅜	13⅛	13½	— ⅜
36⅞	30¼	39¾	31⅜	(sh)	2,018,231	N.P.	Tide Water Oil Co.	$7½c	Mar. 31, 26	600	32½	32½	31⅜	31⅜	— ⅜
101	99	103	90	$	25,042,000	$100	do 5% pfd.	$1.25Q	Feb. 15, 26	200	93¼	93⅞	93⅛	93⅞	+2⅜
5¾	3½	4¾	3	(sh)	3,742,029	N.P.	Transcontinental Oil	.....	.....	11,500	3½	3½	3¼	3¼	— ¼
43¾	33	49⅜	37¼	$	40,480,800	$25	Union Oil of California	50cQ	Feb. 10, 26	93,300	46¼	46¾	40¾	42½	—3½
134	96¼	94	80		24,423,300	100	Union Tank Car Co.	$1½Q	Mar 1, 26	1,200	88	90	88	89	+2
117¾	113¾	116½	113¾		12,000,000	100	do pfd.	$1¾Q	Mar. 1, 26	.....	.....	.....	.....	.....	.....
31¾	25½	29.4	25¾	(sh)	490,000	N.P.	White Eagle Oil & Refining	50cQ	Apr. 20, 26	1,000	26⅝	26¾	26½	26½	— ¼

•New High †New Low xEx-dividend Total Sales 573,800

Pittsburgh Stock Exchange

1925 High	1925 Low	1926 High	1926 Low	Par Value	Stocks	Transactions Week Ended April 9 Sales	First	High	Low	Last	Ch'ge
8¼	5¼	7	5¾	$10	Arkansas Nat. Gas..	2,245	6	6⅛	6	6	0
73¾	69¼	.....	.....	N.P.	Columbia Gas	.....	.....	.....	.....	.....	.....
18	13½	17	14	$10	Devonian Oil	240	14½	14½	14¼	14¼	— ¼
112¾	105½	114	112	$100	Duquesne Lt. 7s pfd.	.....	.....	.....	.....	.....	.....
95	90	.....	.....	100	Fayette County Gas.	.....	.....	.....	.....	.....	.....
.....	.....	10	6¼	....	HoustonGulfGas(w.i.)	205	6½	6½	6½	6½	0
55	32½	56¼	49½	25	Lone Star Gas.	.....	.....	.....	.....	.....	.....
.....	.....	33½	30	....	do new (w.i.)	2,793	31	33½	31	33	+3
7	3¾	6½	6	....	do Rights	.....	.....	.....	.....	.....	.....
37¼	31	36½	33¼	25	Ohio Fuel Corp.	4,983	33½	34½	33½	34⅜	+ ⅜
34	26	34	28	25	Oklahoma Nat. Gas.	1,195	29	29¼	28½	29¼	+ ¼
8¾	5	5¾	4½	5	Pittsburgh O. & G...	10	4¾	4¾	4¾	4¾	0
9¾	6	10	8¾	10	Salt Creek Cons.	15	8½	8½	8½	8½	— ⅛
13¾	8½	10	8½	10	Tidal Osage	105	9	9	9	9	0

Pittsburgh Curb Exchange

1925 High	1925 Low	1926 High	1926 Low	Par Value	Stocks	Transactions Week Ended April 9 Sales	First	High	Low	Last	Ch'ge
20	18½	.....	.....	....	Central Ky. Gas	.....	.....	.....	.....	.....	.....
2¼	.60	3¾	2¼	$ 5	Colombia Synd.	.....	.....	.....	.....	.....	.....
.60	.15	15	15	5	Duquesne Oil.	.....	.....	.....	.....	.....	.....
9	5½	.....	.....	10	Forest Oil	.....	.....	.....	.....	.....	.....
92¾	64	91½	85	25	Gulf Oil Corp.	30	85	85	†85	85	—5
.....	.....	10	6¼	....	Houston Gulf Gas.	.....	.....	.....	.....	.....	.....
12½	3¼	12	9¾	N.P.	Leonard Oil & Dvlp.	.....	.....	.....	.....	.....	.....
2¾	1¾	.....	.....	1	Oklahoma Eastern.	.....	.....	.....	.....	.....	.....
¾	¾	.....	.....	....	Okla. Eastern rts.	.....	.....	.....	.....	.....	.....
1¾	1¾	.....	.....	....	Okla Eastern ex-rts.	.....	.....	.....	.....	.....	.....
.47	.20	.20	.15	10	Omar O & G	1,000	.15	.15	†.15	.15	—.05
.....	.....	2	1¾	....	Pittsburgh Oil Dev.	100	2	2	2	2	0
27½	25	33	26½	10	Plymouth Oil.	220	26½	27½	26½	27½	+1
7	5	5½	5	5	States Oil.	.....	.....	.....	.....	.....	.....
4	1¾	3¾	2¼	$ 1	Texon Oil & Land...	1,295	2¾	3	2¾	3	+ ⅜
11	9	9½	9¼	10	Tidal Osage.	.....	.....	.....	.....	.....	.....
.....	.....	42¾	41	N.P.	Waverly Oil Wks. A	.....	.....	.....	.....	.....	.....

•New High ‡New Low xEx Dividend

NEW YORK BONDS

Week Ending Apr. 9	High	Low	Last	Ch'ge
Amer. Rep. Cor. Deb. 6s.	99½	99¼	99¼	0
Associated Oil gold 6s..	103	102½	102⅝	+ ⅛
Atlantic Refg. deb 5s...	101	100⅜	101	+ ¾
Barnsdall Corp. 6s.....	98½	97¾	98	— ½
Calif Petrol sf 6½s....	104⅜	103⅞	103⅞	— ⅛
Empire Gas & F 7½s...	102⅜	101¾	102¼	— ⅛
Empire Gas & F 6½s...	97⅜	97⅛	97⅛	— ⅛
Gen. Asphalt 6s.....	106⅜	106	106⅛	+ ⅛
Humble Oil & R 5½s...	102½	102	102½	+ ¼
Mid-Cont. Pet. 6½s...	103⅜	102½	103	0
Pan-Amer. P. & T. 7s..	105⅜	105⅛	105½	+ ⅛
Pan-Amer. P. & T. 6s..	106⅛	105¼	105½	— ¼
Producers & Refnrs. 8s.	110¾	110¾	110¾	0
Sinclair Con. Oil col. 7s.	95⅝	95	95⅝	+ ⅛
SinclairCon.Oilcon.6½s	90	89½	89⅝	— ⅛
Sinclair Con. Oil 6s....	108	106⅜	107	— ¼
Sinclair Crude Oil 6s..	100¾	100½	100¾	0
Sinclair Pipe Line sf 5s.	90	88⅜	89½	+ ⅛
Skelly Oil 6½s.....	123¾	120⅛	122½	— ⅜
Superior Oil 7s.....	95	95	95	0
Union Oil of Calif. 6s-A.	105¼	104	104⅝	— ⅛
Union Oil of Calif. 5s-C.	97¼	95½	96¼	— ⅛

NEW YORK CURB BONDS

Week Ending Apr. 9	High	Low	Last	Ch'ge
Atl. Gulf & W I 5s '59..	67⅞	66½	67⅞	+3⅜
Cities Service 6s '44....	92¼	91⅞	92¼	+ ⅛
Cities Service 6s wi new	92¼	91⅞	91⅞	— ¼
CitiesService7s"C""66.	128¾	127½	127½	—1¾
CitiesService7s"D""66.	103	102½	102½	— ¾
Galena S. O. 7s.....	103	102½	102½	—1⅜
General Pet. 6s '28....	101¾	101⅜	101⅜	+ ⅛
General Pet. 5s '40....	95½	95	95½	— ½
Gulf Oil 5s '37.....	100¼	99⅞	100¼	+ ½
Independ. Oil 6½s '31.	96⅝	96½	96½	+ ¾
Pan Amer Pet 6s '40..	100	99¼	99⅞	+ ⅜
Pennok Oil 6s.....	100	100	100	0
Pure Oil 6½s '33.....	103½	103	103⅜	+ ⅜
S O N Y 6½s '33.....	106½	105⅞	106¼	+ ⅜
Sun Oil 5½s '39.....	99½	98¾	99¼	0
Tidal Osage 7s '34....	103½	103½	103½	—1
Trans. Cont. Oil 7s '30..	94	94	94	+ ½
United Oil Prod. 8s '31.	34	33⅞	34	+2⅝

Standard Oil Stock Traded in New York Curb Market

1925 High	1925 Low	1926 High	1926 Low	Outstanding Capital	Par Value	Stocks	Div. Rate	Last Paid	Transactions week ended April 9 Sales	First	High	Low	Last	Ch'ge
26⅝	17¼	19¾	17	£ 4,000,000	£1	Anglo American	$2.4cS.A.	Jan. 4, 26	2,040	17⅝	18¼	17⅜	17⅜	— ¼
4¼	1⅜	2¼	1⅞	(sh) 500,000	N.P.	Atlantic Lobos	.....	.....	400	1⅜	1⅝	1¾	1¾	— ¼
12⅜	8	4½	3½	$ 10,000,000	$10	do pfd	.....	.....	100	3½	3½	3½	3½	— ¼
240	205	255	226	1,000,000	100	Borne Scrymser	‡$4S.A.	Apr. 15, 26	.....	.....	.....	.....	.....	.....
72	53½	59½	53	10,000,000	50	Buckeye Pipe Line	$1Q	Mar. 15. 26	450	53	54	53	53¼	— ¾
74	48¾	73¾	65	3,000,000	25	Chesebrough Mfg	75cQ	Mar 31. 26	400	67	67	66¼	67	+2
115	110	.....	.....	1,000,000	100	do pfd	$1¾Q	Mar. 31, 26	.....	.....	.....	.....	.....	.....
31½	21⅞	25⅛	20⅝	84,914,280	10	Continental Oil	25cQ	Mar. 15, 26	11,600	20¾	21	20½	20⅝	— ⅛
17½	10	16	14	1,500,000	25	Crescent Pipe Line	.....	Sept. 15, 25	100	14¾	14¾	14¾	14¾	— ¼
156	132	137	121½	3,000,000	100	Cumberland Pipe Line	$3Q	Mar. 15, 26	80	121½	122	121½	122	0
96	61	63¾	54¼	5,000,000	100	Eureka Pipe Line	$1Q	Feb. 1, 26	50	54¼	54¼	54¼	54¼	— ¾
68½	23½	32½	22	16,000,000	100	Galena Signal Oil	.....	June 30, 25	250	22⅝	22⅝	22	22	+ ⅛
105	88	94½	78	4,000,000	100	do new pfd	$2Q	Mar. 31, 26	50	82	85	82	85	+2
114	95	97½	80¾	2,000,000	100	do old pfd	$2Q	Mar. 31, 26	50	80⅛	84¾	80⅛	83¾	+3¾
95	42¾	99¾	52	43,750,000	25	Humble Oil & Refining	30cQ	Apr. 1, 26	10,700	56½	57⅝	55½	57¼	+ ¾
.....	.....	65½	53½	72,916,667	25	do new w.i.	.....	.....	3,100	57	57½	55½	57½	— ¼
.....	.....	27½	17½	.....	....	do rights	.....	.....	14,600	20½	21¾	19⅞	21⅜	+ ⅜
154½	127	144	134¼	20,000,000	100	Illinois Pipe Line	$6S.A.	Dec. 31, 25	100	141	143	141	142½	+2½
39¾	27¼	38¾	31½	(sh) 6,491,852	N.P.	Imperial of Canada (new)	25cQ	Mar. 1 26	4,400	33⅞	34⅝	33¾	33¾	— ½
84	57⅜	70	58	$ 5,000,000	50	Indiana Pipe Line	$1Q	Feb 15. 26	200	65½	65½	65	65	0
85⅜	22⅜	35¼	28¾	(sh) 7,118,138	N.P.	International Petroleum	25c	Feb. 15, 26	18,300	31	31⅝	30½	31	— ⅛
25⅜	16½	20⅝	16	$ 6,362,500	$12½	National Transit	25cS.A.	Dec. 15, 25	110	17¾	17¾	17⅜	17⅜	+1⅜
79	49¼	51⅜	39	5,000,000	100	New York Transit	$1Q	Apr. 15, 26	100	45	45	44	44	+2
88	67½	80½	70¾	4,000,000	100	Northern Pipe Line	$8S.A.	Jan. 1. 26	.....	.....	.....	.....	.....	.....
75¾	60¾	67¾	59¾	60,000,000	25	Ohio Oil Co	50cQ	Mar. 31, 26	1,400	61½	62	60⅛	60⅛	— ⅛
44½	19	28	15	10,000,000	25	Penn Mex Fuel	50c	May 21, 25	300	16	17	16	17	+2
65½	45¾	60¼	48	60,000,000	25	Prairie Oil & Gas	.....	July 31, 25	5,000	53½	54½	52½	53⅞	— ⅜
129¾	106	127½	122½	81,000,000	100	Prairie Pipe Line	$2Q	Jan. 30. 26	350	123¾	125	123¾	125	+2¾
254	200	212	191	4,000,000	100	Solar Refining Co	$5S.A.	Dec. 19, 25	190	198½	206	198	203	+6
103	63	74½	61½	10,000,000	100	Southern Pipe Line Co	$1Q	Mar. 1, 26	150	66	67	66	67	—2½
197	139	197	157	20,000,000	100	South Penn Oil Co	$1.50Q	Mar. 31, 26	220	160	162	159½	159½	+2½
47½	45	50	39	20,000,000	25	do new	.....	.....	200	40½	40½	40½	40½	+1¼
84	50	56	52½	3,500,000	100	South West Pa. Pipe Line	$1Q	Apr. 1, 26	.....	.....	.....	.....	.....	.....
.....	.....	58¾	51½	(sh) 15,000,000	N.P.	S. O. California (new)	.....	.....	4,700	53¾	54½	53⅝	53⅞	+ ⅜
70¾	59½	70½	61¾	$ 223,756,258	$25	S. O. Indiana	62½cQ	Mar. 15, 26	15,700	63	63½	62¾	62¾	— ⅜
46	30⅜	36½	25	8,000,000	25	S. O. Kansas	.....	June 16. 24	800	27⅝	29	27⅝	28	+1
137	114¾	134¾	108	16,864,434	25	S. O. Kentucky	$1Q	Mar. 1, 26	900	117	117¾	116	116	—1¾
270	231	267	206	3,000,000	100	S. O. Nebraska	$5S.A.	Dec. 19, 25	670	259	267	x259	261	+3
48¾	40¼	47¼	31½	227,535,300	25	S. O. New York	35cQ	Mar. 15, 26	24,300	32	32⅝	31⅞	32	— ⅜
369	338	368	302½	14,000,000	100	S. O. Ohio	$2½Q	Apr. 1, 26	120	310	315	308	315	+11
123	116	119	117	7,000,000	100	do pfd	$1¾Q	Mar. 1, 26	70	119	119	117	119	+1
27	12	23	15½	1,722,931	25	Swan-Finch Co	.....	Nov. 1. 19	300	18¾	19	18¾	19	0
109½	80⅛	11?	95¾	61,919,950	25	Vacuum Oil Co	50cQ	Mar. 20. 26	3,900	100	100¾	99	99¾	— ⅜

Borne Scrymser $2 extra April 15 $4 extra Oct. 15 $4 extra April 15 ‡Vacuum 50c extra Mar. 20, June 20, Sept. 19 Dec. 19 Dec 19 special $1 Dec 19 S.O. Neb. $10 extra Dec 1 special $1 Dec. 19 S. O. Neb. $10 extra Dec. 19 Ohio Oil 50c extra Dec. 31. Chesebrough 62½c extra Dec. 29. Buckeye P. L. 50c extra Mar. 15. National Transit 50 extra Mar. 15.

New York Curb Market

1925 High	1925 Low	1926 High	1926 Low	Par Value	Stocks	Transactions week ended Apr. 9 Sales	First	High	Low	Last	Ch'ge
11½	2½	14½	5	....	Amer. Maracaibo	19,000	6⅞	7¾	6⅞	7	+2⅛
8⅜	5	6¾	5⅞	$10	Arkansas Natural Gas	200	5⅞	5⅞	5⅞	5⅞	— ⅛
.....	.....	19¼	14⅛	N.P.	Beacon Oil	10,800	15¼	17¼	15	16	+ ⅞
47½	38	.....	.....	$25	British-American	.....	.....	.....	.....	.....	.....
10¾	2¾	22⅛	9¼	25c	Carib. Syndicate	21,800	13	14⅛	12⅜	12⅝	— ⅜
43	35	42⅛	37½	$20	Cities Service	26,600	40½	40½	39½	39¾	— ¾
85⅜	80¼	84	82⅜	100	do preferred	2,200	82⅝	83	†82⅜	83	+ ⅜
8	7¾	7½	7⅜	10	do preferred B	500	7⅜	7½	7⅜	7½	+ ⅛
21¾	17¾	20⅜	19	10	do bankers' sh	1	19⅝	19⅝	19⅝	19⅝	—1
2¾	.60	3½	2	N.P.	Colombia Syndicate	10,800	2⅜	2⅜	2¼	2¼	0
15	8¼	15½	10	N.P.	Creole Syndicate	8,200	10½	11⅜	10½	11⅜	+ ⅜
12¼	5	7⅜	1⅝	N.P.	Crown Central	1,500	2¾	2¾	2⅝	2¼	+ ⅛
7	2	3¾	2	N.P.	Derby Oil & Refining	200	2	2	2	2	— ½
27	10½	14⅞	13½	N.P.	do preferred	.....	.....	.....	.....	.....	.....
6	1⅜	7	4	N.P.	Gibson Oil	7,900	4½	4¾	4¼	4½	— ⅛
3¾	1⅜	2	.65	N.P.	Gilliland v. t. c	.....	.....	.....	.....	.....	.....
98¼	63½	93¾	82⅝	$25	Gulf Oil Corp	4,200	85	85½	83⅛	83¾	—1⅜
5⅜	2¼	4	2¼	N.P.	Kirby Petroleum	10	2½	2½	2½	2½	0
23¼	17⅜	25⅞	17½	N.P.	Lago Oil & Trans. A	25,000	18	18¼	17⅛	17¾	— ⅜
11¾	4⅛	13	9	N.P.	Lago Petroleum	5,200	10	10½	9½	9½	+ ⅜
13	6	12¼	5¾	N.P.	Leonard Oil & Dev	35,400	8¾	8⅝	7⅜	8	+ ¾
25⅞	18	25¾	22½	N.P.	Lion Oil Refining	200	24	24	23½	23½	0
4½	1¾	2¾	2½	N.P.	Marland of Mexico	300	2¾	* 2¾	† 2½	2½	— ⅛
5¾	.50	5½	3⅜	$10	Mexican-Panuco	11,300	4⅛	4⅜	4	4⅜	+ ¼
2	1	1¾	1⅜	1	Mountain & Gulf	900	1¾	1¾	1⅝	1⅝	0
26¼	18¾	26	23¼	10	Mountain Prod	4,600	23¾	23¾	23½	23½	— ¼
6¾	3⅝	6¾	5⅞	5	New Bradford	1,800	6	6⅛	6	6⅛	+ ⅛
24¾	16¼	5	2	10	New England Fuel	300	4	4¾	4	4¾	— ⅛
19⅜	6¼	17	10¼	1	New Mexico & Ariz	2,600	11¾	11¾	11	11½	— ½
12½	8¼	17	8	25	New York Oil	300	10	10⅞	10	10⅞	+2¾
37	14	36	34¼	25	Ohio Fuel Corp	.....	.....	.....	.....	.....	.....
2½	.90	2¾	.88	N.P.	Peer Oil Corp	11,600	1⅝	1⅝	†.88	.88	—.12
28¼	16	22¾	18½	$10	Pennok Oil	600	19½	20¼	19½	19½	0
44½	16	24½	14⅝	25	Red Bank Oil	3,600	23¼	*24½	20½	20¾	+ ¼
33½	19	24⅞	14½	N.P.	Reiter-Foster	5,500	22⅜	22¾	19	19¼	—3⅛
9½	3½	7½	5¼	N.P.	Ryan Consolidated	500	5¼	5½	5¼	5½	+ ¼
9¾	6⅛	10	8½	$10	Salt Creek Cons	.....	.....	.....	.....	.....	.....
35	24	36	29	10	Salt Creek Prod	4,200	30½	30½	30	30½	0
3⅞	1	2¾	1⅝	5	Savoy Oil	900	2½	* 2¾	2½	2¾	+ ¼
13¾	9	10	9	10	Tidal Osage	.....	.....	.....	.....	.....	.....
10⅞	8	10	8½	10	do non-voting	.....	.....	.....	.....	.....	.....
.....	.....	27	21⅛	N.P.	Tide Water Association	13,300	23¾	24	22⅞	23⅛	— ½
.....	.....	99¼	97½	100	Tide Water Association preferred	4,100	97½	97⅝	97½	97½	0
4⅞	1¾	8	4¼	5	Venezuelan Pet	37,500	6⅜	7	5⅞	6¾	+ ⅜
.....	.....	29⅜	23½	....	Warner-Quinlan w. i	900	25	25⅜	24⅞	25⅜	+ ½
31¼	22⅛	27⅝	22	N.P.	Wilcox Oil & Gas new	1,400	24½	25¾	24½	25¾	+1⅜
7	3⅜	6⅜	5¼	N.P.	Woodley Petroleum	600	5½	5⅝	5½	5½	— ¼

*New High †New Low xEx-dividend